the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS

EST. 1906

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Editorial Comment

Paper and Box Situation Improves

A number of factors have combined to improve the domestic paper and box situation. Current output, according to the American Paper and Pulp Association, "is already in process of refilling the pipe-line and this could probably be accomplished by mid-summer or Fall."

While the demand is still running somewhat ahead of supply, it is felt that this condition will not long prevail. Modernization, improvement and repair to existing machinery, plus the addition of a number of new machines during the year, has put the industry in a much better position than it has been in for some time. Labor in the mills is improving and it is hoped that the situation in the woods will shortly improve.

At the present time the United States and Canada have price levels which are slightly below that of the world level. This results in a demand for export, which is accentuated by the fact that this country, at the present time, is in a position to supply certain types of paper which are unavailable abroad. It is expected that when the European producers enter the market in the Fall this condition will right itself. Reports indicate that a price adjustment is under way for pulp from Sweden.

A waste paper collection and campaign is being conducted at the present time and those in a position to know anticipate better results than at any time since 1942.

Supermarkets Survey

That the drug chain organizations are giving serious consideration to the threat of food outlets in the cosmetics field is tipped off by a close scrutiny on their part of supermarket sales.

The method is far from exact, but close enough to give approximate sales. The market is visited in the early morning by a shopper, and again before closing-time. Additional checks are made from time to time throughout the day. In this way, reduction of stock, as well as replenishment, may be observed.

VAN DYK EMULSIFIERS

GLYCERYL MONOSTEARATE

PROPYLENEGLYCOL MONOSTEARATE

PROPYLENEGLYCOL MONO OLEATE

AND VARIOUS OTHER

GLYCOL AND GLYCEROL FATTY ACID ESTERS

SPECIAL ACID-STABILIZED EMULSIFIERS

for antiperspirant creams, permanent wave creams, and other cosmetic and allied products containing large percentages of electrolytes and acids.

NON-IONIC EMULSIFIERS

These emulsifiers have many specialized applications. They are particularly suitable for emulsions in which stability to acids, alkalis, and salts is of prime importance. Because of their non-ionic character, their compatibility with other components of emulsions is considerably higher than that of ordinary ionizable emulsifiers.

"CUSTOM-MADE" EMULSIFIERS

We have had a wide experience in formulating emulsifiers adjusted to meet special conditions for which the emulsifiers available on the market have not been found suitable. A large part of our production consists of these "custom-made" emulsifiers. We welcome an opportunity of conferring with manufacturers about emulsifiers to fit their special requirements, either in new products which they are planning to bring out or in existing products which they wish to modernize or improve.

Van Dyk emulsifiers are manufactured on a large scale in a modernly equipped plant. Rigid and exacting scientific control during each step in production assures unvarying and dependable uniformity in the quality of Van Dyk emulsifiers and, subsequently, in that of the products in which they are used.

VAN DYK & COMPANY

INCORPORATED 1904

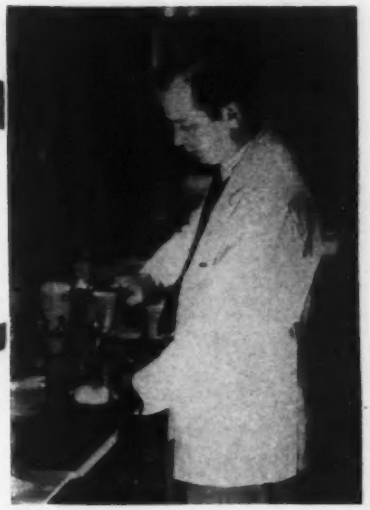
Manufacturers of Perfumery and Cosmetic Raw Material Since 1901

Belleville 9, New Jersey

Los Angeles 12: 1282 Sunset Boulevard

Desiderata

by MAISON G. DeNAVARRE



M. G. DeNavarre at work in his laboratory

TECHNICAL ARTICLES

You do not realize how reluctant are technical men employed by cosmetic manufacturers to write articles on various phases of their research and development work until you have asked them to do this. Sometimes the technical man themselves feel that whatever they have learned is their private information, and they have no intentions of ever sharing it with anybody else. Occasionally the manufacturer does not want the technician to do any technical writing because he wants whatever discoveries are made to stay within the organization. Sometimes, of course, the technician has done little or no original work and as a result is not in a position to do any technical writing.

Whether it is the technician or his boss, the attitude of "The heck with the industry, let them dig it out for themselves" is wrong because invariably the boss or the technician learned what they know in part from their own work and in part from what they read in their trade and scientific journals. If people before them had been as selfish as they, then no one would know anything.

Only by bringing technical data into the light of today, having it duplicated by others, can its real value be assessed. Too often things that work for one man do not work for another. It isn't always a variation in technic or poor articulation on the part of the reporting technician. Sometimes there is something fundamentally wrong with the research and the technician publishing it has not adequately checked it.

The cosmetic industry is of age now. It should be aware of the fact that to progress it must do research. It must also be aware of the fact that its research has to be published and exchanged with others. The day of mysteries is passed. If anything remarkable has been discovered, the chemist is too discreet to disclose it unless adequate patent protection has been obtained. It is my experience that the average technician in this industry does not go out blabbering all he knows when he leaves the factory. He is a careful, discreet, honest and hard working individual, begging for scientific recognition. It is in fact the management that is most responsible and which will have to set the pace before worthwhile reports appear in trade and scientific journals.

PRESERVATIVES AGAIN

Molding and fermentation problems are ever present. There seems to be no perfect preservative. Even the strongest ones that work well in *most* mixtures do not always work well in *all* mixtures. There are many preparations in which even the strongest mercurials are rendered ineffective. Adequate proof of this failing came out during the war in testing anti-mildewing compounds.

The preservative problem seems to have been magnified during the war. The explanation for it is different, depending on who tells the story. In any event, it seems that the paper liners are loaded with spores more than ever. It is possible too that the raw materials being used and the premises on which the cosmetics are being made are more heavily loaded with contamination of one sort or another, than ever before. All this is confirmed by an increase in the number of complaints heard from manufacturers. Maybe the use of transparent cellulose or parchment discs would prevent a lot of this. Discussing it with one manufacturer who tried to check it up, this approach seems to be a very practical one indeed. Besides this, however, it is important to add the right kind of preservative in the right amount. Any of the standard esters of parahydroxy benzoic acid can be used but the methyl ester in particular is usually used, in a quantity too low for effectiveness. It takes at least 0.15 per cent and we are finding now that up to 0.2 per cent is not too much. In addition the caps should be stored in a dry atmosphere to prevent mold growth in the liner. The use of transparent discs of one kind or another is also indicated.

ARMY INSECT REPELLENT

The War Assets Corporation with headquarters in most of the principal cities is throwing on the market some 70 million, two ounce bottles of army insect repellent, the OPA ceiling price on which is fixed for various classes of trade. If you are interested in getting into the insect repellent field, this may be the way to do it. In any event you will have a product that actually works. So, write to the nearest office of the W. A. C. for further information.

CREAM SHAMPOO

Adding to the many other problems concerned with the formulation of cream shampoo is a recent order

NO BROKEN METAL
NO MESSY LEAKS!

THERE'S *Extra* STRENGTH
IN EVERY TUBE

Most tubes take a lot of punishment. Everyone takes a turn at twisting, squeezing, bending, folding, until nothing but a mass of crushed metal remains. That's why it is so important that you specify the toughest tubes you can get.. SHEFFALLOY *"Sheffield Process"* Tubes. There's an extra margin of safety built in these better tubes. The metals are specially treated by our exclusive "Sheffield Process" of melting, mixing and tempering. The tubes are tough, sturdy, yet remain pliable. Safeguard the quality and prestige of your products, switch to SHEFFALLOY *"Sheffield Process"* Tubes. A phone call or letter to our nearest office will quickly bring you full details, without obligation.

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SHEFFIELD PROCESS
TUBES

NEW ENGLAND COLLAPSIBLE TUBE CO.
3132 S. CANAL STREET, CHICAGO 16 • NEW LONDON, CONN. • W. K. SHEFFIELD, V. P., 500 FIFTH AVENUE, NEW YORK 18
THE WILCO COMPANY, 6800 McKINLEY AVE., LOS ANGELES 1

issued against the manufactrers and users of wetting agents, curtailing the use of these compounds. The interpretation of this new order, however, brings out the fact that if you simply melt, perfume and color a wetting agent, repackaging it as a cream shampoo, that you do not come within the scope of the order. If, however, you add other things, then you are a manufacturer.

Since it is practically impossible to make a satisfactory cream shampoo with any of the wetting agents by simple coloring and perfuming, a lot of people are going to be affected. There is one wetting agent that can be colored and tinted and works well as a cream shampoo, remaining opaque at higher temperatures. The most used product, namely, sodium cocoanut alcohol sulfate paste, sold by a trade name, turns translucent at around 80 deg. F. and will pour out of the jar almost like water.

It has been mentioned in this column many times that the use of colloidal magnesium aluminum silicate in conjunction with wetting agents is an excellent basis for developing cream shampoo. This is not only a guess but a fact.

MINERAL OIL SHORTAGE?

Mineral oil and petrolatum are about the only things that one could freely buy for the duration of the war. Now that hostilities are over, these items are beginning to get tight in supply. Other industries have discovered the inertness of the mineral fats and are using them to replace or to extend animal and vegetable fats. Shortages of animal and vegetable fats have been present for a long time, but the pinch has only come on in recent months to some industries. As a result, the cosmetic industry that uses far less mineral fat than branches of the food industry, might find itself in a bad spot.

ALUMINUM SULFATE

One of the difficulties of incorporating aluminum sulfate into stick antiperspirant has been the fact that a suitably dried grade could not be obtained. As a result, the finely powdered aluminum sulfate dissolved in its own water of crystallization during the fat melting operation, forming large crystals and agglomerates, which refused to remain in a finely subdivided form. One supplier is experimenting with the production of a specially dried aluminum sulfate, providing the market for the material is sufficiently large. The material is not completely anhydrous but is "practically anhydrous."

QUESTIONS AND ANSWERS

589. WAVE LOTION

Q: *One of the products I manufacture is a finger wave lotion. I realize that in the past four years many new chemicals have been developed and presume one of these could be used in making a quick drying lotion. My idea is to make a concentrated product put up in small bottles, to be diluted to one gallon when used.*

P. A. J.—NEW JERSEY

A: The carboxy methyl and carboxy ethyl cellulose have some possibilities in the field of quick drying finger waving lotions. They dry from the inside out, thereby not skinning over the surface and sealing in the water, thus retarding evaporation. Of course, these would have to be plasticized and you are undoubtedly aware of the fact that glycerin, sorbitol syrup or propylene glycol might be used for this purpose.

590. RANCIDITY PREVENTIVE

Q: *We will appreciate any information as to where hydrogenated peanut oil for cosmetic use may be obtained as well as an oxidative rancidity preventive.*

P. P.—NORTH CAROLINA

A: Under separate cover we are sending you the names of several manufacturers of hydrogenated fats. Propyl or ethyl gallate 0.1 per cent, propenyl methyl guaethol 0.1 per cent or hydroquinone 0.1 per cent in the presence of a slight amount of citric acid equal to half the amount of antioxidant used should be a satisfactory protection against rancidity. More recently, NDGA has also been recommended in amounts of 0.01 per cent and a slight amount of citric acid. The suppliers names are sent to you separately.

591. PERFUME OIL SOLUBILIZER

Q: *I wonder if you can furnish me with the name and address of a concern making a material to be used in solubilizing perfume oil in water.*

W. M. P.—FLORIDA

A: The ether esters or polyoxyalkylene derivatives of materials such as Sorbitan Mono Laurate or liquid oils capable of solubilizing perfume oils when used at the rate of from 2 to 5 parts of solubilizer to 1 part of oil. The supplier's name is sent to you under separate cover.

592. HAND LOTION FORMULA

Q: *Will you kindly furnish me with a formula for a "roll-up" type hand lotion? Also a good regular type hand lotion. Also a liquid shampoo which lathers easily and profusely. Please give me manufacturing procedure and source of materials needed. Will appreciate some information about colloidal magnesium silicate gel and source of supply for this material.*

G. H. C.—GEORGIA

A: It appears to us that you need more than just a little information and we suggest that you purchase one or more books on the subject. Inasmuch as the "roll-up" type of hand lotion is not mentioned in most ordinary books on cosmetic manufacture, we suggest that you try the following formula:

Paraffin	16	parts
Stearic Acid	2	parts
Triethanolamine	0.32	parts
Perfume and Water to make 100 parts.		

Melt the stearic acid and paraffin and bring to about 90 deg. C. Heat the water and triethanolamine to the same temperature. Add water to the wax with rapid stirring and mixing until cold. Regarding the colloidal magnesium silicate gel, we are sending you under separate cover, the name of the supplier who will give you whatever data you need.

Vibrant as sunshine and pulsating as the infusion of flowering blossoms with the Spring breeze — such is the effect of EXALTOLIDE on your perfume. EXALTOLIDE is the most highly developed, purest and strongest fixative body of a Musk-Ambergris character yet produced.

Perfume extracts, powders of any type, and creams daily are being improved and rounded by its aid, *without change of odor character.* A test will startle you! The value of EXALTOLIDE is priceless — its use economical.

Firmenich & Co.

Some Modern Lipstick Material

The raw materials that go into the manufacture of lipsticks is established . . . Up to date, there are no substitutes for these essential materials

by JOSÉ MACIAS-SARRIA

THE subject of lipsticks is old and we might say that the raw material that goes into the manufacturing of lipsticks is "established" or "essential": beeswax, lanolin, castor oil, carnauba wax, lard, mineral oil, paraffins, ozokerites, bromo acid and lake colors, etc.

Up to date, we have no substitutes for these materials, and I may add that we don't have any urgent need for a substitute for them (critically speaking). Looking this list over, we find two materials which could cause trouble through rancidity and naturally they are castor oil and lard. Yet, when one buys these two items from a reliable concern that takes good care of them, stores them properly and in addition has rancidity tests performed on them, one can rest assured that these items will stand well. Besides all these precautions taken by the raw material houses, the lipstick manufacturer should never accept a drum of such material without examining the products carefully as to odor, color and taste; he should also have a rancidity test performed on it. With proper storage in cool places and in closed metal tanks, filled up to the top, I have seen drums of castor oil stand well for periods much longer than a year. In addition to all these safeguards, we now have antioxidants which, coupled with the standard preservatives of the parahydroxide benzoic acid type, offer a wide range of safety. For safety I do believe, too, that each box of one dozen lipsticks should be wrapped in wax paper and well sealed.

SUBSTITUTES

Strictly speaking in using the word "substitutes" I mention two items: cocoabutter and bromo acid solvents. The first, cocoabutter, was some years ago one of the main essential raw materials of lipstick manufacturing. Some formulas called for up to 50 per cent of it. Molded cocoabutter alone, slightly modified and with eosin color, was in itself the first lipstick. As things stand now, I believe cocoabutter was the least desirable material of the old group because of its tendency to get rancid, its melting point, its granular appearance and its "blooming" drawback.

HYDROGENATED OILS

As a cocoabutter substitute, we now have the hydrogenated oils. Hydrogenated oils are made of cotton seed oil, castor oil, soyabean oil and almost any oil or combination of oils. We also have hydrogenated lard. We have in these hydrogenated oils, as compared to cocoabutter, a much better raw material to deal with, almost free from rancidity and with various melting points, up to the melting point of lard and cocoabutter.

BROMO ACID SOLVENTS

This is the second raw material substitute I spoke of. One can write so much on this subject, somewhat complex and risky and much theoretical. The outstanding issue on this subject is the lack of contribution on the part of the cosmetic chemists who are not willing to discuss in public at least their negative results, things which in the long run would be a way to build up knowledge on the matter. No doubt they have done a great deal of testing; the subject covers a large field from experimenting with different solvents by introducing hydroxy groups, which in turn were esterified with fatty acids, etc.

Here I shall discuss the use of solvents and shall offer some of my experiences on behalf of the cosmetic students. It is true that castor oil is a poor solvent for bromo acid; yet on the lips it produces a fair stain. But some manufacturers were not satisfied, especially since the word "indelible" was created by the advertising departments. Butyl stearate came out and has helped a great deal. It should be used at a low percentage and is not a castor oil substitute in the sense of its physical properties

as concerned to the body of the lipstick. But even then, the motto "indelible" demanded more powerful stain. Here a parenthesis for the advertising department: Indelibility in greasy sticks as sticks are today is in inverse proportion to kiss-proof. The more indelible a greasy stick, the less safe it is to kisses. Only liquid lipsticks (very popular now at seashores) are almost non-greasy and can be both indelible and kiss-proof.

Since the fatty acid radical of butyl stearate is of no importance, the alcohol radical points to look for other alcohols. In this group, especially among the poly-alcohols we now have propylene glycol. So, we dumped some bromo acid in our test tubes half filled with propylene glycol and found it was true: Propylene glycol is a very good solvent for bromo acid. As it was, propylene glycol couldn't be used in lipsticks due to its immiscibility with oils and waxes. But it forms esters with fatty acids and here we have the whole range of esters from propylene glycol mono stearate, to the laurates, myristates, oleates, etc., even to the esters of fatty acid mixtures, such as propylene glycol mono cotton seed, propylene glycol mono soyabean, propylene glycol mono peanut oil, etc.

I remember how eagerly I incorporated propylene glycol mono stearate in my lipsticks, but to a great disappointment. In some way the stick lost its adhesive properties to the extent that the lipstick comes out like paint over a wet surface. The lady guinea pig with whom I was experimenting exclaimed: "Look! I ate all my lipstick. I put it on before lunch and after lunch I had not a trace left. I never had this experience before with *my* lipstick." "Neither did I," I said. And that ended my experiments with propylene glycol mono stearate. As a practical conclusion to this experience, I thought of the theatre and the movie industry. Maybe there, in Hollywood, where actors have to take off their lipstick, it will serve its purpose.

PROPYLENE GLYCOL MONO SOYA BEAN

Among the least irritating esters of propylene glycol, propylene glycol mono peanut oil seemed very good, but the fatty acid splitting companies do not offer peanut oil fatty acids in a commercial scale. Next to it propylene glycol mono soyabean seemed most promising. It also blends well with castor oil. But, alas! The smell of its nitrogenous impurities made such a problem to perfumers that they couldn't solve it. Bouquets sold to cover the odor were so harsh as to make them unpleasant. This reminds me of the odor of good cod liver oil in face ointments. But while some perfumers were working on an odor to cover its ill smell, the thing croaked somewhere else, because propylene glycol mono soyabean is very apt to become rancid and the lipsticks made with it turned out irritating. Its bad odor also increases with the rancidity.

Many women complained to the Federal Food and Drug Authorities about the ill smell and irritation of propylene glycol mono soya bean which some chemists, regardless of its bad smell, did dare to put out on the market. This has marked, at least until refined or hydrogenated, the end of its use in lipsticks.

ABSORPTION BASES

Absorption bases also seem to have bromo acid solvent properties due no doubt to cholesterol, and its esters. Some brands do a better job than others; this might be due to the part played by the fatty acid radical. Another property attributed to these absorption bases is that the surface tension of the oils and petrolatum seems to increase to the point that they produce a more permanent and better shine in the lipstick.

COMPATIBILITIES

Cosmetic chemists are very concerned with the subject of "compatabilities." I would rather call it "miscibilities." By this they mean any material should be avoided that doesn't blend well and uniformly with the rest of the oils of the lipstick. To perform such tests, one takes some castor oil or else the oils that are present in the lipstick and mixes them with the new material. The test tubes are now warmed in a water bath and then are removed and cooled at room temperature. Additional test tubes are placed in the refrigerator.

If, after cooling, the mass remains homogenous, one is inclined to believe that the new material will blend well and will not "sweat out."

During the war when the plastic cases became in vogue, everyone became familiar with the "sweating out" trouble. No one has yet pointed out the true reason for the trouble and the most logical to some seems to be that as the lipsticks become warmed in showcases, etc., the air expands out of the lipstick container, some of the melted oil impregnates the plastic structure, making this lose its elasticity and become tight. As the air cools, a partial vacuum is formed which makes the oil squeeze out, especially if mineral oil or butyl stearate are present. Happily, at that time, my own lipsticks did not sweat out or else I got the right plastic. To check the previous theory, the thing to do was to punch a hole with a hat pin in the lipstick case cover, so the air would circulate; this being the solution, plastic manufacturers could offer the covers with a pin hole. Yet, I am inclined to believe that the acid impurities of the cellulose acetate plastics affect chemically the beeswax, making this lose its feeble binding properties which seem to act at their optimum in a slightly alkaline medium. Since the metal cases and combination of metal and cardboard are coming back, probably we will not see this subject clarified.

THE "FEATHER" LINE APPEARANCE

After a woman has applied lipstick, some brands seem to run out into the fine lines or fissures, which lay across in our lips, running over the border of the lips and giving that "feather" like appearance which many women object to. Naturally, they object because the make-up artists have emphasized the purity of that line to the extent that they use a brush to draw such a line. I believe the trouble is due to some oil of low surface tension like butyl stearate, in some formulas, if not present in a low percentage. Some bromo acid solvents now sold have also low surface tension, but what seems worse is that some of these solvents may contain some free propylene glycol or other glycols present, which being water-soluble might run out. So, here comes one more test to the cosmetic chemist bench and it is to test the mixture of bromo acid and its solvents for bleeding in water.

Spanish Oil of Eucalyptus

Eucalyptus oil is used most widely in medicinal preparations because of its merits as a disinfecting and bactericidal agent

by DR. ERNEST GUENTHER

Chief Chemist, Vice President, Fritzsche Brothers, Inc., New York, N. Y.

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THE bulk of the so-called "medicinal" eucalyptus oil* is supplied by Australia but for many years Spain, too, has been producing substantial quantities of a high grade eucalyptus oil. The Spanish oil has always found a good market in Europe, especially in England, because of the fact that the Australian oil has to travel over a long distance and usually is shipped in large quantities, while the Spanish oil can be obtained quicker whenever there arises a sudden demand for the oil or for small quantities.

BOTANY

The Australian "medicinal" eucalyptus oils are derived from several species, such as *E. australiana, polybractea*, etc., and only very little from *E. globulus*, while the Spanish oil is distilled exclusively from the latter species.

PRODUCING REGIONS

The *Eucalyptus globulus* trees grow profusely in the province of Huelva located in the southernmost part of Spain, between Seville and the Atlantic coastline.

DISTILLATION

The production of Spanish eucalyptus oil continues throughout the year but reaches peaks in spring and fall. The leaf material serving for distillation is collected only from trees more than five years old because younger plants do not yield sufficient leaves. A tree six to eight years old produces annually 20 to 30 kilos of leaves.

Distillation is carried out in the usual type of field stills as described under oil of Spike-Lavender, Rosemary, Pennyroyal, etc. They are 2 meters high and 1.60 or 1.80 meters wide, holding 70 and 90 arrobas, respectively, of leaf material. (1 arroba = 11.5 kilos or about 25 pounds.) Distillation of one batch lasts six hours including the charging of the stills, and is completed when 200 or 240 liters of water have distilled over.

YIELD OF OIL

About 160 kilos of leaves give one kilo of oil, which means an average oil yield of 0.6 per cent. The best season for obtaining a high yield and quality of oil is in spring and summer up to August.

According to the experience of Spanish distillers, the young foliage cut from the tree tops gives a much better yield of oil than the old branches around the trunk of the trees. Too, the oil derived from young leaves contains much more cineole and is of better solubility.

TOTAL PRODUCTION

Previous to World War II Spain produced yearly on the average from 60-100 tons of eucalyptus oil.

After the outbreak of World War II, Central Europe, especially Germany, France and Italy, depended entirely upon the Spanish oil as the Australian product had become unavailable. Production in Spain, therefore, rose to 300 tons during 1942. For the years to come a normal production of 100 tons annually may again be expected, provided political and economic conditions in Spain remain undisturbed.

PHYSICO-CHEMICAL PROPERTIES

Crude Spanish eucalyptus oils are of yellowish color and soluble only in 7-8 volumes of 70 per cent alcohol. Their cineole content ranges from 65-67 per cent.

Fractionation of the crude oils yields water-white oils, soluble in 3 volumes of 70 per cent alcohol, and containing up to 90 per cent cineole. These rectified oils meet all specifications of the United States Pharmacopoeia.

CHEMICAL COMPOSITION

Oil of *Eucalyptus globulus* was first investigated by Cloez[1] who isolated a substance b. 175 deg. which he called eucalyptol but which was evidently still accompanied by terpenes and therefore not pure. The true nature of eucalyptol $C_{10}H_{18}O$, the main constituent of eucalyptus oil, and its identity with cineole was recognized by Jahns.[2] Since then oil of *Eucalyptus globulus* has been the subject of many investigations with the result that today our knowledge regarding the chemical composition of this important oil is fairly well established. The following compounds have been identified in oil of *E. globulus:*

ethyl alcohol — In the foreruns, according to Bouchardat and Oliviero.[3]

* "Medicinal" eucalyptus oils are distinguished from other types by their high cineole content.

isoamyl alcohol Isolated by Schimmel & Co.[4] through the calcium chloride addition compound, and identified as phenylurethane m. 52-53 deg.

butyraldehyde *valeraldehyde* and *caproaldehyde* According to Schimmel & Co.[5] these aldehydes which occur in the foreruns of the oil, are primarily responsible for the disagreeable, stinging and cough-provoking odor of the crude oil and should be removed by fractionation.

d-α-pinene Wallach and Gildemeister[6] isolated d-α-pinene from the fraction b. ca. 165 deg., and identified it as nitroso compound m. 129-130 deg., and as nitrolpiperidide m. 116 deg.

camphene In the fraction b. ca. 155 deg., according to Schimmel & Co.[7]

eucalyptol (cineole) The main constituent of the oil was recognized and identified in the fraction b. ca. 175 deg. by Jahns.[8]

l-pinocarveol This laevorotatory alcohol was first observed by Wallach[9] in the fractions of *Eucalyptus globulus* oil boiling above 200 deg., after these fractions had been saponified. The alcohol then boiled at 215-220 deg. Purified through the acid phthalate, l-pinocarveol had these properties:

b_{13} 92°
$[\alpha]D$ −52° 27′ (in 12.75% solution)

n_D^{20} 1.49630

The presence of l-pinocarveol in Spanish oil of *E. globulus* was later confirmed by Schmidt[10] who also identified the following compounds:

l-pinocarvone The bicyclic, l-rotatory unsaturated ketone $C_{10}H_{14}O$ which aside from d-myrtenol was isolated from the saponified last runs had the constitution of pinocarvone. It cannot be distilled at ordinary pressure and is completely regenerated from its sulfite compound only by the action of strong alkali.

b_4 67-69°

d_{15}^{15} 0.985

αD −59° 54′
nD 1.49459
Semicarbazone m. 350°
Oxime (liquid)
αD − 11° 0′

This ketone also yielded a solid oxime m. 131-132 deg. It showed no melting point depression with nitrosopinene.

Dibromide m. 73.5-74°
$[\alpha]D$ +130° 0′

d-myrtenol Isolated from the saponified last fractions in the form of its boric acid ester. The phthalate melts at 114-115 deg.

d-myrtenal Separated as sodium sulfite compound which was decomposed by treatment with alkali. The aldehyde was then isolated by steam distilation.

b. 220-221°

d_{15}^{15} 0.991

αD +13° 13′
nD 1.50302
Semicarbazone m. 215°
Oxime m. 69-70°

i-terpineol Schmidt[11] identified this optically inactive alcohol as phenylurethane m. 113 deg. in the last runs of *E. globulus* oil. Treatment with 20 per cent sulfuric acid transformed this terpineol into terpinhydrate m. 118 deg.

globulol (?) $C_{15}H_{25}OH$ Schimmel & Co.[12] observed in the last fractions of *E. globulus* oil an almost odorless sesquiterpene alcohol $C_{15}H_{26}O$ which after recrystallization from

Eucalyptus distillation in southern Spain

70 per cent alcohol had these properties:

m. 88.5°
b_{755} 283°
$[\alpha]D$ −35° 29′ (in 12% cloroform solution)

Semmler and Tobias[13] named this sesquiterpene alcohol globulol and expressed the view that physically and probably also chemically globulol differs from eudesmol.

According to Schimmel & Co.,[14] globulol on treatment with chromic acid yields a crystalline compound m. 78 deg. (orange red needles). Wienhaus[15] observed similar addition compounds of chromic acid in the case of several sesquiterpenes.

sesquiterpenes (?) $C_{15}H_{24}$

Ruzicka, Pontalti and Balas[16] found that the last runs of a *E. globulus* oil, after distillation over metallic sodium, yielded an oily substance b_{12} 122-131 deg. which consisted almost entirely of sesquiterpenes. The same authors separated these sesquiterpenes into two fractions:

a) b_{12} 124-127°
d_4^{20} 0.9078
αD −12° 6′
n_D^{20} 1.4968

Dehydrogenation with sulfur of this apparently bicyclic sesquiterpene gave two blue oils b_{12} 130-145 deg. and b_{12} 145-160 deg., both of which yielded black picrates m. 122 deg. Probably these picrates were identical with azulene picrates.

b) b_{12} 127-152°
d_4^{20} 0.9172
αD −4° 18′
n_D^{20} 1.5001

Dehydrogenation with sulfur gave cadalene in about 10 per cent yield.

Ruzicka, Pontalti and Balas[17] also observed that a sesquiterpene alcohol fraction b_{12} 150-160 deg. of *E. globulus* oil, on boiling with 85 per cent formic acid, yielded a sesquiterpene which on dehydrogenation with sulfur gave also cadalene. These authors therefore concluded that the sesquiterpene compounds contained in *E. globulus* oil are mainly bicyclic representatives of the cadinene type, contrary to other eucalyptus oils which contain eudesmol.

aromadendrene $C_{15}H_{24}$

Briggs and Short,[18] and Naves and Perrottet[19] arrived at the conclusion that the sesquiterpene fraction isolated from oil of *E. globulus* consists mainly of tricyclic aromadendrene. These authors reported the following properties of aromadendrene:

b_{10} 121°[18]
b_6 114°[19]
d_4^{20} 0.9116[18]
d_{20} 0.9166[19]
αD +4° 48′ [19]
$[\alpha]_{577}^{20}$ −6° 6′ [18]
n_D^{26} 1.4978 [18]
n_D^{20} 1.4980 [19]

Dehydrogenation of aromadendrene with sulfur yielded S-guaiazulene, which was identified as picrate m. 122 deg.

Radcliffe and Short[20] recorded these properties of the sesquiterpene fraction from oil of *E. globulus*, containing aromadendrene:

b_{10} 120-125°
d_4^{20} 0.9159
α_{5770} +0° 48′ to +2° 4′
n_D^{20} 1.4990-1.5004

USE

Oil of *Eucalyptus globulus*, like all so-called "medicinal" eucalyptus oils, is used most widely in all kinds of medicinal preparations, such as lotions, ointments, inhalents, gargles, mouth washes, tooth pastes, furthermore in disinfectants, room sprays, scrubbing powders, cleansers, and soaps. It also serves in cough medicines, and for the flavoring of cough drops and certain types of candies. Oil of eucalyptus is one of the most useful and most important essential oils. Because of it high merits as a disinfecting and bactericidal agent in conjunction with a pleasant, refreshing and "clean" odor, this oil has reached a high degree of popularity in Australia and could be used on a much larger scale in the United States.

[1] *Compt. rend.* 70 (1870), 687.—*Liebigs Ann.* 154 (1870), 372.
[2] *Ber.* 17 (1884), 2941.—*Arch. Pharm.* 223 (1885), 52.
[3] *Bull. soc. chim. III*, 9 (1893), 429.
[4] *Ber. Schimmel & Co.* April 1904, 47.
[5] *Ibid.*
[6] *Liebigs Ann.* 246 (1888), 283.
[7] *Ber. Schimmel & Co.* April 1904, 47.
[8] *Ber.* 17 (1884), 2941.—*Arch. Pharm.* 223 (1885), 52.
[9] *Liebigs Ann.* 346 (1906), 221, 227.
[10] *Ber.* 62 (1929), 2947.—*Ber. Schimmel & Co.* (1941), 56.—*Chem. Abstracts* 37 (1943), 4714.
[11] *Ber.* 62 1929), 2946.
[12] *Ber. Schimmel & Co.* April 1904, 45.
[13] *Ber.* 46 (1913), 2030.
[14] *Ber. Schimmel & Co.* Oct. 1908, 82, footnote.
[15] *Ber.* 47 (1914), 322.
[16] *Helv. Chim. Acta* 6 (1923), 859.
[17] *Ibid.*
[18] *J. Chem. Soc.* (1938), 1200.
[19] *Helv. Chim. Acta* 23 (1940), 914.
[20] *J. Chem. Soc.* (1938), 1200.

New Marketing Book

The second installment of "Marketing Drugs and Cosmetics" by Louis Bader and Sidney Picker makes its appearance on page 113 of this issue. THE AMERICAN PERFUMER feels that its readers will find this to be a particularly timely and worthwhile work.

Army Research Plan

The Army has advanced an integrated plan for joint effort on the part of Army and ciivlian chemists in developing chemical warfare weapons.

Short Adages

by R. O'MATTICK

"IT pays to advertise," is a very old slogan but one which still fetches customers not only for advertising media and advertising agencies but for their clients as well. Needless to say (yet we say it because these obvious features are sometimes overlooked), you have to have the right product and the right kind of advertising.

According to *Advertising Age*, Procter & Gamble spent more money for radio, magazine and farm publication advertising in 1945 than any other company—$19,500,000 is the tidy little sum. Of the first twelve firms on this spending list, three are soap houses, four are in the drug and cosmetic manufacturing business, two are food companies and one is in the tobacco business. This leaves only two among the top twelve (General Electric and General Motors), who do not use essential oils, aromatics, flavoring materials and perfume oil compounds.

* * *

Dr. Rowmateral says that he can determine a great many things about the fashions, trends, market situation, science, art, logistics and statistics of perfumery by riding in the subways, buses, train coaches, parlor cars and planes. He asserts, for example, that the perfumes on the ladies in Madison Avenue buses are superior to the perfumes in Eighth Avenue buses—that ladies who fly in planes wear more sophisticated perfumes than those who travel on subway trains.

* * *

The Flower Show held at Grand Central Palace during the first week of March was the first of its kind since the war. We saw a number of perfumers there, smelling this carnation and that rose, evidently to check up on their own creations of floral odors. Those of the fraternity who have never attended a Flower Show are urged to do so in the future. It ought to furnish much inspiration and many ideas for the creation of perfumes. Even with the near non-existence of flower absolutes, flowers are still the calyx of the perfumer's art. If a perfumer gets nothing else but discouragement when he smells the odors which nature has compounded, he will at least get suggestions for some new flower names to vary the monotony of roses, lilacs, gardenias and carnations.

* * *

We were surprised to learn that only 20 per cent of the volume of cosmetics in this country is made by private label manufacturers. We would have placed the figure at a much higher level had we been asked to hazard a guess. Perhaps that is because we meet our friends in the private label business usually at conventions, BIMS, Foragers dinners and other such convivial affairs, when they are in a jolly, merry-making and expansive mood. To hear some of them talk, they have turned out more lipsticks than there were metal cases manufactured since the Phoenicians got into the metal business.

But in spite of a little pardonable bragging, the Private Label fellows are a worthy lot. Not beset by the intricate problems of merchandising, they concentrate on the know-how of cosmetic products and we are among those who are always ready to give them a boost.

* * *

Manufacturers of leg make-up lotions will do more business than ever this summer if the shortage of nylons continues with the coming of warm weather. But just when women will need nylons least, is when they will become more available.

* * *

This column, whose purpose has always been to amuse (applause) our readers and to lighten their burdens during these long, dreary days of *Shortages*, has avoided controversial subjects—particularly those of a serious and scientific nature. But one of our readers has sent in the following letter which we cannot refrain from placing here for a number of reasons: 1. We wish to show that we *have* readers; 2. That they actually write to us in spite of the fact that they are very busy people; 3. Such letters always bring more letters and the more letters we receive the less work we have to do.

Dear Dr. Rowmateral,

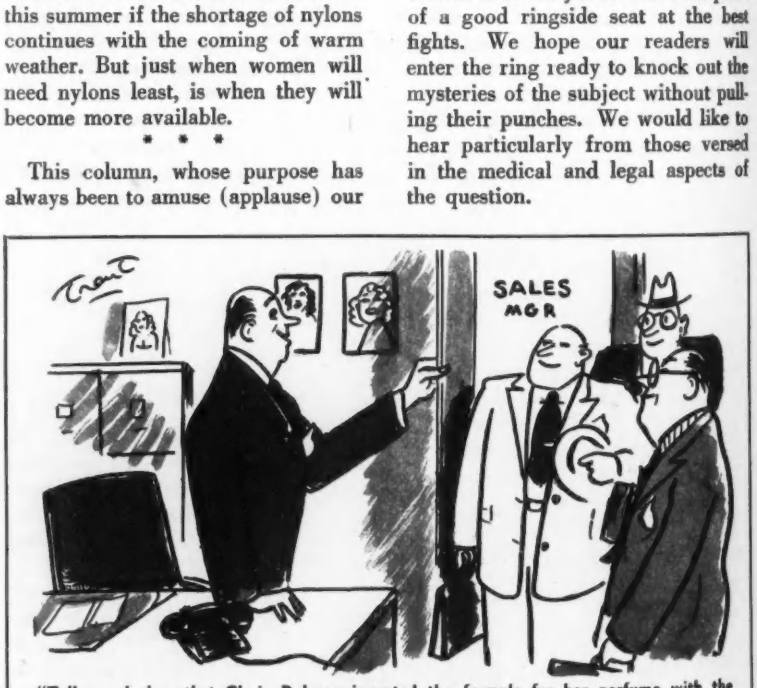
In most parts of the United States creams containing hormones are sold without government interference. But in Louisiana and a number of other states, their sale is prohibited by State laws. I have no opinion on the value of hormone creams and no axe to grind as our company does not make creams of any kind. But either Louisiana is wrong or the Food, Drug and Cosmetic Administration is wrong. If Louisiana is wrong, manufacturers of hormone creams ought to fight these State laws tooth and nail—not à la paste and polish.

Yours,

N. Docrine

* * *

All we know about hormone creams is that a jar is worth the price of a good ringside seat at the best fights. We hope our readers will enter the ring ready to knock out the mysteries of the subject without pulling their punches. We would like to hear particularly from those versed in the medical and legal aspects of the question.



"Tell our dealers that Gloria DeJones invented the formula for her perfume with the help of only 14 chemists!"

Cosmetic Trends in the Middle West

Cosmetic sales in girl's departments climb steadily
. . . Drug stores make their windows silent salesmen . . .
Nylons encourage sales of depilatories and leg lotions

by JEAN MOWAT

THE first peace time Easter in five years will see many changes in the cosmetic field. Some of these have slipped in by the back door, others have just drifted in and some are being tested as ideas that might be worth adopting.

YOUTH HAS ITS OWN

It was about a year ago that a local manufacturer of cosmetics began to prepare smart packages for the Junior Miss. These had to be something that would appeal to her in color and design, and offer her a little more ambition to be fresh and shining. Many of those in the cosmetic know-how attended this coming out party. It had all the Ohs and Ahs that any new line is accorded. But today there are competitors springing up hither and yon. The idea proved even better than the makers anticipated.

Perhaps some of this acceptance—priced in ensembles from $1 to $5.50—was due to ample cash reserves and to a desire to have the latest in anything new for the girls. But the steady climb of this merchandise in girl's departments has probably been as much a surprise to the buyers as it has been a happy find for distracted parents, kin and those who like to give their little friends something new in a gift. Anyway, the girls' departments in cosmetics are off to a rushing start.

If you will consider the tender care and attention given to the skin of a child until he begins to start school you may wonder why such care was not exercised in those growing years when washing is rarely very thorough and pores get clogged. This idea was found to be of much value in the tiny tots section where fragrant oils for the bath were featured and tiny sachets for the clothes. But now that Miss Seventeen or even Miss Thirteen can go into her own department in the store and select her own items, as per her complexion, there is a new field opening. Many of the items now being featured won't hold up and will be discontinued. Some lines will be discontinued in favor of others that have more consumer appeal. Where demonstrations are needed sales are necessarily slower.

TRAINING NEEDED

With drug store competition making it hot for the department store sections (and the hours do make a difference) the drug chains are avoiding the teen-age idea "because we've seen others get burnt." It may be regarded as an alibi, but hardly an excuse. Consider the idea in this manner: Today the drug chains with headquarters in the Middle West are out to carry on an educational campaign so that the man who is a pharmacist as well as the girl selling cigars can suggest the right cosmetics. This is considered background.

Most of these stores are planning a course that will take two years to complete. Not only will the fountain help learn how to apply cosmetics but they will receive some form of PM for boosting the sale while they sell a sandwich. It's a neat packaged idea. These same stores have tried the school plan in major cities and find it is increasing sales even beyond anticipated figures.

Department stores as a whole, and in most instances, present a cosmetic display as a part of very smart apparel. Window space is too valuable for merely an entire cosmetic window, or else it must be a perfume that sells at the $25 ounce price.

Drug stores make their windows act as silent salesmen. Here are some of the ideas which will be put into execution the coming months, dependent upon the arrival of materials. One store will use only "live" merchandise in its window—that does not mean models as you may think—but will feature actual packages rather than the poster-cardboard cut-outs that have been extensively employed. Lucite fixtures, or some other type of semi-clear effects will replace much of the present type of shelving. Windows in all cities will be done to a prepared plan for each week. This was an idea on which the merchandiser was questioned. Texas stores don't need the same type of heavy creams as are needed in Minneapolis, etc., and the answer was that a "trimmer" was supposed to use his head. So the plan may well be changed in the mileage between these points.

TESTING . . . TESTING . . . 1, 2, 3

You've heard it at conventions and now the perfume buyers are doing it. "During the war we did not stock any new odors," said a leading Middle Western buyer. "Women had pretty much made up their minds what to buy and we had no space for promotional items, and we could not determine how much would arrive. We are now willing and ready to test new odors. In fact we need them, and certainly some of these

men back from the war ought to have ideas on some new scents, they have been in lands most of us will never see," said this man.

Not only are perfumes being tested but colognes are also being given various tests and trials on different types of skins. It might be well to state that the smart perfume woman is today advising that *all* scents be applied directly to the skin so that each odor, regardless of its vintage and bottle scent, will have a slightly different fragrance on each woman.

Perfume buyers are loath to make any comment regarding the immediate future sale of packaged items. Because glass factory workers have been on strike, bottles ordered for Easter have not yet arrived. The situation is slightly different in colognes, for these are usually machine made, whereas the finer perfume bottles have hand work to make them almost collector's items.

YOU MIGHT KNOW IT WOULD BE

Armed service men are coming home with ideas. One that will be used as soon as materials are ready and installation made is to sell perfume through a dispenser. The idea is reported as new. Perhaps it is, but it does sound like a steal from certain types of dispensers that have been in operation a long time. The story is that you put your money in the slot, under the name of the perfume you want, and out it slips into your hand. This will be a drug store idea to speed up selling, but it may soon be found in other places, unless our guess is wrong!

Stores that normally devote extensive space to advertising their new wares slowed up during March, as did the smartness of their displays. Treatment creams lead the van of all selling, and display for March sales prevailed in Kansas City, Duluth, Minneapolis, St. Louis, Detroit and Chicago.

The return of nylons has also been the incentive for a greater sale of depilatories, especially those in tube form. Much promotion on this is needed for hairy legs and 51-gauge nylons are definitely pas chic—and it means pretty sloppy.

THE MYSTERY OF MAKE-UP

Too often sales are made to build a book. This means a loss to the store for friends tell the customer what is wrong and the sale is lost for more than one customer. The salesperson who takes time to initiate a woman into the mystery of make-up makes a friend and builds an entire clientele. Some of the smartest work is being done when a clever salesperson anoints one's face while under the dryer and says that she will be glad to finish it. She does. She turns out a glamorous person. Suggests the last word in the application of rouge, how powder goes on, a little trick of putting on the skin lotion afterwards and producing a translucence that is new and unusual. Naturally, such sales are in large figures.

Treatment lines handled in this way move well in all beauty salons where such a practice is used. If any person can make a woman glamorous while in curlers she has made a friend forever. The suggestion of how to wear an arch, the application of lip rouge, is a mystery to the average woman, who is sold a bill of goods without knowledge of its use. Even demostrators don't expect to see the same woman again and hand out the usual "fast line."

WHAT'S AHEAD?

The first quarter of 1946 showed an upward curve in cosmetic and perfume sales that has been leaving merchandisers wide-eyed. Most are glad that Easter comes in April and June is graduation month so that the second quarter looks equally as good.

Throughout the Southern cities—Kansas City, St. Louis, Indianapolis and occasionally Chicago, warm weather has produced a volume of sales on leg lotion.

There are conservative predictions that 1946 will be the peak year for this product. Department stores have settled on about six brands and of these, three are top sellers. Des Moines is already making this a point in current selling.

Bath-oil is fair in some stores, slow in others and reaching new peaks in stores that have been able to supply the pine scent. Bath salts are steady but may slip a little as more showers are taken with warmer weather, but then soap sales move upward, and both of these are facts of current importance. Block's of Indianapolis is featuring a choice of 21 scents, and the finer soaps. Bubble is up.

Two deodorants are outstanding in sale. A paste, and one which comes in liquid form and in a tube. These are sold in volume. Other brands move steadily but the repeats are not as heavy. The warmer weather has also forced this curve higher.

Buyers throughout this territory are asking for a *good* foundation cream. A trip though the area would seem to indicate that there were enough to select from to find one that approached what they had in mind. But apparently not. They say more attention to the blending and packaging is needed.

NEW COLORS FIGHT FOR A PLACE

With reams of advertising and with every apparel window carrying the news of new lip-sticks and nail polishes in tones that are out of the stratosphere, buyers assert that while these sell in fair amount it is the long, tried and well-tested shades that are the producers of volume. There is a more steady sale of nail polishes than any buyer remembers. Lip rouge is equally as firm.

Pink powder continues a favorite in high style, but will it stay is a question buyers ask as the vacation season opens.

ADVERTISING TRENDS

More and more of the advertising throughout the country is being done with excellent illustration and with attention to detail, but when one enters the department there is nothing to carry out this idea which has been featured. Lines are here and there, but the very merchandise on which much time, effort and money has been expended may lie on half a dozen counters, but rarely does one locate it upon entering the department.

In men's sections the idea is handled more expertly. Perhaps because men are limited in shopping time, and then will never hunt for an item. So these sections are inside main floor departments. If there is any sale item, the sale ad is on the counter, and usually one or two items to stress the theme that is featured. Sounds an easy thing to do. But then usually what is easy makes for indifference. There is more or less apathy in general selling, it may be war-weariness, but it is not improving the sales of cosmetics, despite the upward curve. Perhaps the department stores need an educational program such as the drug store offers.

Progress in Essential Oils and Toiletries

*A comprehensive review of the developments of the past year in the field of essential oils and synthetics**

by DR. PAUL Z. BEDOUKIAN
Compagnie Parento, Inc., New York, N. Y.

ASIDE from isomerization reactions, terpenes readily undergo addition reactions. Thus, terpene ethers have been obtained by reacting pinene and alcohols in the presence of sulfamic acid[49] or of other acids.[50, 51]

Polyhydroxy terpene derivatives have been obtained from terpenes by a special process.[52] Terpene peroxydes are valuable medicinal products as vermifuges. A patent has been taken out on the manufacture of this type of compound from terpinene.[53]

It is interesting to note the possible use of terpenes as raw material for the manufacture of plastics. The condensation of terpenes with phenols in the presence of catalysts to produce varnishes and protective coatings has been patented.[54] Polymerization of terpene esters of acrylic acids to produce a new type of acrylic resin plastic has been patented.[55]

INDOLE

The study of indole derivatives is being continued, perhaps because of the increasing interest in the chemistry of amino acids valuable in problems relating to nutrition and therapeutics. One of these amino acids, namely, tryptophane, is a derivative of indole and may be synthesized from it. Substituted indoles are of value to perfumers and it is of interest to note new procedures for preparing indole, 2-methyl indole, and 3-methyl indole.[56] The Tyson synthesis of indole has been extended to the synthesis of 2-3 dimethyl indole, 3-methyl indole, and 1-methyl indole.[57] A number of products have been obtained in catalytic pyrolysis of ammonia and furan, one of which has been found to be indole.[52] Indole has been hydrogenated to the dihydro and octahydro derivatives.[59]

(Editor's note: Conclusion of article.)

ANALYTICAL PROCEDURES

An interesting discussion of method used in the estimation of various types of alcohols occurring in essential oils has appeared.[60] The same author discusses the application of selective formylation of borneol, 3-octanol, and benzyl alcohol in the presence of linalool and its esters.[61] The use of absorption spectra and detection of a-dicarbonyl compounds has been mentioned,[62] especially in the analysis of juniper berry oil, orange peel oil and coriander seed oil. Proper methods of extraction of essential oils from distillate water were discussed recently.[63]

RESEARCH IN SYNTHETICS

Continued shortage of menthol has forced further interest in this product. A recent patent[64] describes crystallization of synthetic l-menthol from a solution of peppermint oil fractions in order to impart to it the odor and taste of natural menthol. Methods of testing the purity of commercial racemic menthol have been worked out.[65] A study of the flavor of natural and synthetic menthols has appeared in the literature.[66] It was found that hydrolysis of l-menthol acetate by the usual method did not cause racimization of the menthol.[67]

Critical studies in ionone and its derivatives continue in connection with research leading up to the synthesis of Vitamin A. Ionylideneacetates were prepared by various methods and subjected to a thorough investigation.[68, 69, 70] Another patent has been taken out for the manufacture of ionone homologs.[71] It has been found that one of the cyclization products of pseudoionone is a tricyclic isomer of ionones. This ketone which does not combine with bisulphite has been studied recently.[72]

Eugenol has been hydrogenated with Raney nickel and several esters of the product prepared.[73] It is interesting to mention that eugenol is hydrogenated with greater ease than isoeugenol. Hydrogenation of eugenol in alcohol with Raney nickel but without gaseous hydrogen has also been accomplished.[73a] Derivatives of cis and trans isoeugenol have been prepared with a view to determining their toxicity to house flies.[74]

Coumarin content of a number of fruits was studied. The fruits of essential oil bearing plants such as anise, fennel, caraway and parsnip root did not contain coumarin.[75] The constituents of the ripe berries of Luvaganga scandens were also investigated.[76] An extensive review has been published of the chemistry of coumarin.[77]

A number of developments of direct interest to the perfumery industry have appeared in the literature. Rosenmund reduction of undecylenoyl chloride to the undecylenic aldehyde has been described.[78]. Polymerization products of undecylenic acids have been examined.[79] Enanthylidene acetone has been prepared by the condensation of heptaldehyde with acetone.[80] A

number of ketones have been prepared by the dry distillation of the calcium salts of fatty acids.[81] A new preparation of phenylacetaldehyde has been described in a recent patent.[82] Hydrogenation of cinnamaldehyde to phenyl propyl alcohol has been reported.[83] A new method of preparation of substituted butyrolactones may be of particular interest to the perfumery industry.[84] New types of perfume materials were prepared by causing a-b-unsaturated carbonyl compounds to react with conjugated dienes and these in turn condensed with ketones.[85]

SEARCH FOR NEW SOURCES

Cultivation of essential oil bearing plants in the western hemisphere continues both on an experimental and on a commercial scale. An absolute rose oil has been prepared from Texas grown roses using the well-known steam distillation, hot and cold non volatile solvent extraction, and volatile solvent extraction methods. The quantity and quality of the absolute obtained were considered satisfactory.[86] Experiments were conducted to determine the effect of field drying and stacking of the grass on the yield of citronella and lemon grass oils. It was shown that the total acetylizable constituents of the oil decreased considerably with time after cutting and it was concluded that the best results are obtained by distillation soon after cutting the grass.[87] Citronella grown in the Argentine has a yield of 0.3 per cent of oil.[88] The oil of Juniperus mexicana Schiede has been found to contain cedrene and cedrol amongst other constituents.[89]

Commercial supplies of natural camphor are obtained from the distillation of the wood and leaves of the camphor tree. Synthetic camphor is manufactured from pinene found in American turpentine. Serious attempts have been made in the past to grow camphor producing plants in the United States. The results of one of these experiments involving the culture of camphor basil (ocimum kilimandscharicum Guerke) were published recently. It was found that under proper conditions of cultivation followed by steam distillation of the fresh flowering herb, an oil was obtained containing 50 per cent to 70 per cent camphor. The amount of oil per acre ranged from 100 to 300 pounds. The possible large scale cultivation of this plant economically in the United States was discussed at some length.[90]

A valuable study has been made on the relation between the yield of oil from peppermint (Mentha piperita) and the time of harvesting. Experiments have shown that the time of harvest can best be determined by analysis for menthol. When the free menthol content was about 45 per cent, the yield of oil was found to be the highest. Cutting of the crop a week or two before or after the optimum time decreased the yield of oil by as much as 30 per cent. The results of hybridization experiments with Japanese mint, spearmint and water mint were reported recently. The yield of oil from the hybrid did not seem to justify commercial exploitation.[92]

The essential oil of guayule obtained from different parts of the plant has been studied and a number of its constituents determined. The significance of the occurrence of terpenes in relation to the formation of rubber in the plant was discussed.[93] Steam distillation of anise hyssop grown in Iowa gave an essential oil consisting mainly of d-limonene and methylchavicol.[94] A patent has been taken out describing an improved method of obtaining essential oil from plant material, especially from citrus fruits.[95]

The essential oil from the fruits of Libanotis montana has been found to consist of a complex ester of geraniol and a bicyclic sesquiterpene having two double bonds.[96] Pine needle oil from pinus silvestris was found to contain 30 per cent bornyl acetate, 20 per cent camphene, 15 per cent pinene and 35 per cent monocyclic terpenes. The oil from pinus halepensis had 10 per cent pinene, 6 per cent camphene and 15 per cent tertiary alcohols. It had a high bornyl acetate content.[97]

Study of Australian oils continues. Crude oil of Eucalyptus erythronema Turcz contained 70 per cent cineol and the examination of redistilled oil indicated the possibility of its commercial exploitation.[98] Leaves and terminal branchlets of Halfordia Kendack gave an oil consisting of 90 per cent pinene. It also contained p-cymene, sesquiterpene, and a sesquiterpene alcohol.[99] The leaves of Olearia paniculata gave 0.1 per cent oil which consisted of 10 per cent terpenes and 48 per cent sesquiterpenes.[100] Extensive studies of the Australian tea tree oils[101] and apricot kernel oil[102] have been made. Massoia bark oil (cinnamonum massoia) of New Guinea has been found to contain 79 per cent phenols mainly as eugenol, 7 per cent terpenes and 14 per cent higher boiling fractions, chiefly safrole.[103]

Cinnamon and its oil from Ceylon have been examined. It was found to contain 50-65 per cent cinnamic aldehyde, 4-8 per cent eugenol, and a small percentage of terpenes.[104] An oil from Ocinum canum Sims has been reported.[105] An oil obtained in China from the pericarp of Zanthoxylum spp. (Rutaceae) has been examined. It finds use as a flavoring agent for cooking and for its anthelminic action.[106] A number of plants cultivated in Southern France were distilled at different stages of development and the oils obtained examined.[107]

SURVEYS ON ESSENTIAL OILS

Cultivation of essential oil bearing plants in Brazil is being carried out on a larger scale. Latest reports indicate interest in the newer oils such as vetivert, cloves and styrax.[108] An extensive survey of Brazilian mint oil and menthol has been concluded.[109] Another important product of Brazil, namely sweet orange oil, its production and properties, along with by-products of orange juice, orange wine and brandy, has been described in detail.[110] Sassafras oil derived from Ocotea pretiosa Benth has been examined and its properties reported.[111]

Central America has also come in with its share of production of essential oil bearing plants. Lemon grass is of particular interest in this connection.[112] Production of bay oil in Puerto Rico has been the subject of a recent publication. A detailed description is given of its cultivation, harvesting and distillation, together with its use in bay rum.[113] A general survey on the production of essential oils in Latin America and outlook for the future has been made.[114]

In the United States, a number of northeastern woods produce not only essential oils but also organic acids, gums, resins and waxes. The oils of birch, juniper berry, sassafras, cedarwood, and Canada turpentine have

been discussed in this connection.[115] The Southeastern states produce cedarwood oil to the extent of over a half a million pounds a year.[116] Another type of oil of cedarwood (Port Oxford cedar) is also produced.

A very extensive study of the volatile oils of various mentha species has been made.[117]

Mention should be made of a report on the production of a number of valuable essential oils in the Near Eastern countries.[118] These include oil of myrrh, oppoponax, olibanum from Arabia, styrax and rose oil from Asia Minor, origanum from Palestine, cumin from Syria, and cassie from Egypt. Manufacture of sandalwood oil in India has been the subject of a publication.[119] The government of Mysore recently published a monograph on oil of patchouli. This includes the origin, botany, cultivation, effect of aging, analysis, and yields of this very valuable perfumery oil.[120]

A world-wide survey of lavender oil including the cultivation, harvesting, distillation and properties of the oil has been made.[121] Production of Spanish spike oil[122] and Spanish thyme and origanum has also been reported.[123] A review of other Spanish oils appeared in another publication.[124]

Ocimum oils were the subject of a detailed study which included the cultivation and distillation of the plant, as well as the composition and use of each oil.[125] American eucalyptus oils,[126] pennyroyal,[127] oil of basil and its different types,[128] oil of fennel,[129] balsam tolu,[130] and Sumatra benzoin[131] were discussed in recent reviews. A fourth and revised edition of the Winning of Eucalyptus Oils has been published.[132] The production of various essential oils in Texas, including rose oil from different species of roses, horsemint (Monarda fistulosa), mintweed (Pycnanthemum albescens), and goldenrod (Solidago odora) were reported recently.[133] The possibility of obtaining oakmoss resin from American sources has been considered.[134]

REVIEWS ON SYNTHETICS

A number of papers have been published dealing with perfumery synthetics. Such articles, discussing in detail the historical development, syntheses and uses of various aromatics, are of particular value to the reader. Acetals, and the relation of odor to their chemical constitution have been the subject of two authoritative publications.[135, 136] Various classes of lactones, their syntheses and odors have been discussed at some length.[137] An extensive study of ionones and related compounds, including a thorough historical review has appeared recently.[138]

A general survey of progress in perfumery materials in Europe during the years 1940-1945 has been made.[139] Another publication has given progress in essential oils and perfumery materials during the period of 1943-1944.[140]

It is particularly gratifying to note the appearance of several books published recently of general interest to the trade. Among these are "The Science and Art of Perfumery" by E. Sagarin,[141] "The Chemical Senses" by R. W. Moncrieff,[142] and a Spanish book, "Quimica de los Perfumes Sinteticos" by L. Blas.[143]

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Packaging Portfolio

SHULTON

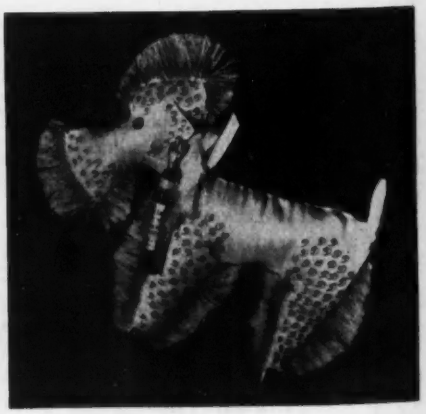
SHULTON: The Travel Set is the first of Shulton's new packaging in the Early American Old Spice for Men's line. Packaged in the cream leather-like red-lined box are a full-size shave stick, and miniature containers of after-shave lotion and talcum. The only decoration on the sturdy plastic case is the ship Grand Turk stamped in blue. The identifying trademark appears on a removable cellophane band.

REVLON: Revlon presents an unusual package with its Bachelor's Carnation. A man's stark black lapel etched against a snowy white shirt with a flamboyant red carnation is the background for the new matched box of nail enamel, base adheron and lipstick, and the box of harmonizing face powder.

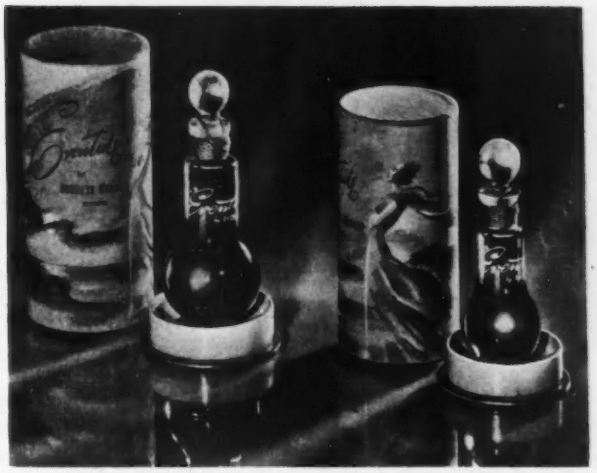
ESME OF PARIS: The Poodle Sachet is made of white satin and is hand painted in blue. The poodle is sachet'd and scented with Esme of Paris' On Fifth Avenue perfume and has a one dram vial of the fragrance tied around his neck with a bow. It is encased in a clear acetate box.

REVLON

ESME OF PARIS



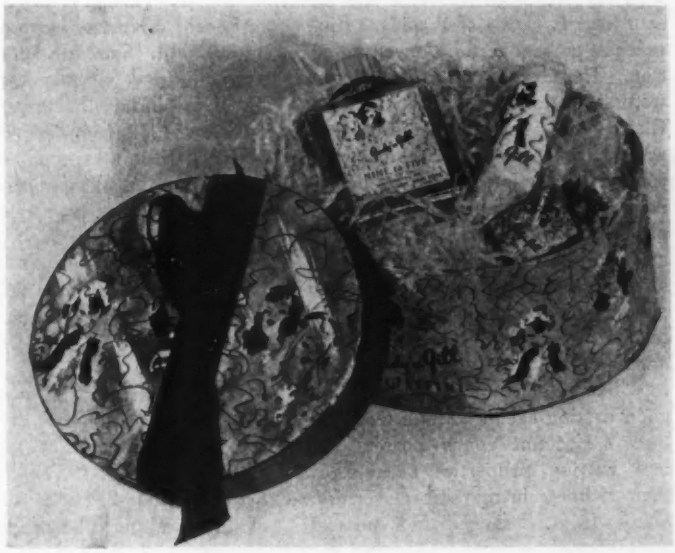
DUCHESS D'ANDRE



DUCHESS D'ANDRE: Duchess D'Andre's new perfume, Eventide, comes in a distinctive hand-blown bottle, reminiscent of ancient alabaster vases. Gold cord entwines the slender bottle neck. A white decal identifies the product. The box is soft coral and twilight blue, depicting a dusk theme.

JUDY 'N JILL: Model's Miniature is a Judy 'n Jill cosmetic hat box. The gay green box is etched in black and tied with shiny black ribbon. Inside there's perfume, cologne and lipstick.

JUDY 'N JILL

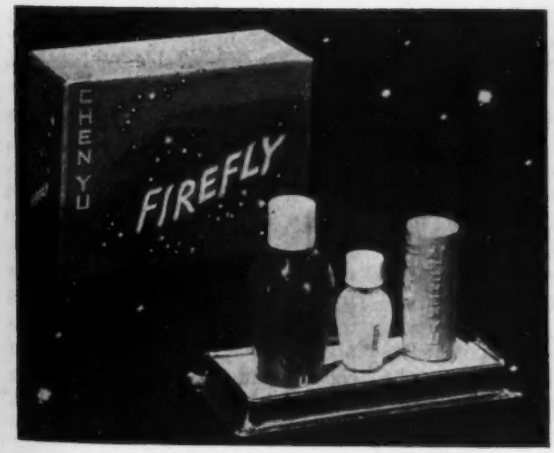


CHEN YU: Chen Yu's Firefly comes packaged in a box which is alight and alive with flickering wisps of gold. The lipstick is in a metal case and has a blue carved plastic top.

HERB FARM SHOP: The charming wheel-barrow of sturdy wood, tied with cellophane, ribbon and flowers, holds a variety of Herb Farm's fragrances and talc. The cart, which will make a useful cigarette box, is filled with toilet water, hand soap and a talc trio.

HERB FARM SHOP

CHEN YU



Technical Abstracts from Scientific Literature

These brief abstracts listed provide a convenient key to current scientific literature of the world on perfumes, cosmetics, soaps, dentifrices and other preparations

Wetting properties of soap. Sadgopal. *Soap, Perf. Cosm.* **17**, *258-9, 1944.* The sodium and potassium soaps of fatty acids from C_4 to C_{10} have very little wetting action on soiled fabrics. This action begins with soaps of both saturated and unsaturated C_{12} To C_{20} fat acids. Ricinoleates possess very little wetting action. The myristates have maximum wetting action of saturated acids. Oleates are better than linoleates while K soaps are better than sodium soaps. The action of soap is dependent on the total predominant fatty glyceride components. Thus soaps of castor oil rich in ricinoleic glycerides have very little wetting power while almond, olive and sesame, and other oils, rich in oleic glycerides, have good wetting activity. Soaps of hard fats like Mahuwa and Tallow are good wetting agents at high temperatures. Coconut soaps possess the best wetting properties because of their richness in myristic glycerides. Soaps from hardened fats possess poor wetting activity. Wetting action is high at high temperature. Rosinates, however, have less wetting action at high temperature. Experimental technique is detailed. (Through *C. A.*, **38**, *3501, 1944.*)

Stabilizing essential oils. P. Z. Bedoukian. *Perfumery & Essen. Oil Record* **36**, *101* (*1945*). Oxidation of essential oils which causes the development of off-odors has been a problem attracting the attention of many investigators. The stability of cinnamon oil as contrasted with the ease of oxidation of cinnamic aldehyde is claimed to be due to the presence of eugenol, which serves as an antioxidant in the natural oil. Addition of 0.1 per cent of catechol to peppermint oil was found to be effective as an antioxidant, and preferable to hydroquinone. It is also claimed that perfumes used in toilet and laundry soaps may be stabilized by the addition of ascorbic acid or similar compounds. (Through *Soap and Sani. Chem.*, **21**, 46, 1945.)

Recent advances in cosmetics materials. III. Sun tan preparations, hormone and vitamin creams, etc. C. B. Holliday, *Perfumery Essent. Oil Record*, **34**, *156, 1943.* The author reviews certain specialized creams from the point of view of their curative or preventive properties. He outlines the requirements of a satisfactory sunburn cream or lotion and cautiously appraises the value of hormone and vitamin creams. (Through *J. A.Ph.A.*, **33**, *238, 1944.*)

The significance of swelling and dissolving phenomena of the hair keratin in cosmetics. *Chem. Zentr., 1943, I, 2542; H. J. Henk. Fette und Seifen*, **49**, *668-9, 1942.* A discussion of the swelling phenomena during shaving and in the use of depilatories. (Through *C. A.*, **38**, *4377, 1944.*)

Aliphatic alcohols: their toxicity and potential dangers in relation to their constitution and their fate in metabolism. W. F. VonOettingen. *U. S. Pub. Health Bull. No. 281, 253 pp, 1943.* This study covers a review of the literature on the toxicity and potential dangers of univalent, bivalent, trivalent and multivalent alcohols. Each group is followed by a discussion of the relation of the chemical constitution, physical-chemical properties and metabolic fate of these alcohols to their toxicological action. The study is based on information gathered from approximately 1200 publications which are quoted in the bibliography. (Through *C. A.*, **38**, *4315, 1944.*)

Citric acid solution. Antonio Mestres Jane, *Agricultura* (*Madrid*) **12**, *No. 134, 243-5, 1943.* No citric acid industry exists in Spain and the importation of crystalline citric acid is difficult. A 10 per cent citric acid solution can be made from the crude calcium citrate produced as a by-product in the manufacture of lemon extract. Calcium citrate (495 g), purity 65 per cent is dissolved in 584 g of 37 per cent hydrochloric acid and neutralized with concentrated aqueous sodium hydroxide to p H 6. The filtrate is heated to boiling and 200 g calcium chloride added. The calcium citrate (300 g), 95 per cent purity, is filtered and dried at not higher than 60 deg. Sulfuric acid (155 g), diluted with 5 to 6 parts of distilled water, is added slowly with vigorous stirring at 40-50 deg. The filtrate is decolorized with 100 g activated C per liter. Potassium ferrocyanide is added in the amount necessary to precipitate the metallic impurities, avoiding an excess. The filtrate is a pure transparent solution of citric acid, and can be used in place of crystalline citric acid in wine making. (Through *C. A.*, **38**, *4254, 1944.*)

New substitutes in the food industry. *Gyula Kieselbach. Termeszettud. Kozlony*, **74**, *70-8, 1942; Chem. Zentr., 1943, II, 685.* A short description of the substitutes for coffee, tea, chocolate, cinnamon, vanilla, pepper, citric acid, etc., production of blood plasma, artificial casings for sausage products, hardening of liquid fat, production of edible oils and fats from tomato seeds, bone, etc., synthesis of fatty acids, use of aluminum plate on steel instead of tin plate for canning and aluminum foil for packing provisions. (Through *C. A.*, **38**, *4321, 1944.*)

SOAPS

The Use of Caustic Potash in Soaps

Research and development of caustic potash has been extended over a period of 45 years . . . Some of the highlights pertaining to the history, manufacture, types and economies of caustic potash in soap

by JAMES E. FERRIS
Niagara Alkali Co.

THE caustic potash industry got its start in this country when the Allies blockaded Germany during World War I. Prior to that time, the German potash cartel dominated the world supply of potassium compounds. During World War I, many American industries, particularly the soap industry, found they could not meet their production requirements on the meagre caustic potash supply manufactured by the lone American producer who used raw material obtained from domestic sources and sources outside of Germany.

DEVELOPMENT OF MURIATES

Before World War I ended, our government realized the urgent need of developing a large domestic supply of potash to meet both war and peace demands. Large sums were appropriated to develop domestic sources of potash salts. New deposits were found in New Mexico, and the lone operation in Searles Lake, Calif., was expanded. Before this expansion took place, however, the domestic market was flooded again with foreign muriate, which by nature was a purer product than domestic muriate. When this happened, domestic producers of muriate asked the caustic potash manufacturer to state his reasons why the domestic material could not be used in preference to foreign material. The answer was that domestic muriate tested around 90 per cent KCl as against 98 per cent KCl for foreign muriate selling at the same or lower prices. The domestic muriate producer thereupon undertook a series of developments, which today provide a refined muriate of potash exceeding in quality that of any muriate in the world. However, it was largely through the insistence of the potash soap industry on the quality of the finished product (caustic potash) which caused us to insist upon development of a higher quality of raw material (muriate), which in turn freed the American caustic potash industry from dependence on foreign raw material supply.

This paper is from a talk presented at a meeting of the Association of American Soap & Glycerine Producers, Inc.

DOMESTIC MURIATES

Caustic potash is basically produced by the electrolysis of muriate (potassium chloride) brine. We have two sections of this country supplying the muriate used in the potash industry—California and New Mexico. The muriate from California is of better quality testing well over 99 per cent but is not available in sufficient quantities to take care of the domestic demand and the deposits from New Mexico are also required. The analyses of the muriates from these two sources are not too far apart but each are obtained from different natural sources and thus require different methods of purification to eliminate objectionable impurities.

CALIFORNIA MURIATE

At the present time the California muriate leaves little to be desired as it contains only small quantities of impurities mainly lime and magnesia and insoluble matter which are readily removed by the caustic potash producer. This was not always so however—in fact, only relatively a few years ago this muriate contained as much as 1 per cent bromide as KBr. Now, due to the build-up of mother liquors during the manufac-

ture of caustic potash, this bromide impurity might very well have shown up in the finished product and perhaps the soap industry would have eventually gotten around to identifying bromide with some troubles they were encountering—however, before this took place it was another industry that first caught the presence of this bromide impurity and not in the finished caustic potash but in the chlorine produced. In the production of some pure chemicals bromide was found—which led to trouble. After thrashing out the matter, our own company installed equipment for the removal of this bromide impurity from the muriate. A short time later the muriate supplier decided that bromine was of value to them and decided to do his own removing which necessarily scrapped our own equipment. The removal of this relatively high impurity—namely about 1 per cent—resulted in a muriate of very high purity approaching 100 per cent.

The muriate from New Mexico, however, testing approximately 99 per cent KCl, has the balance of impurities in the form of soda salt (NaCl) which is extremely difficult to remove in the presence of such a high potash chloride content. In fact, it has just about reached its limit with the result that the present-day caustic potash has a slight quantity of caustic soda present as an impurity in the neighborhood of 1/3 of 1 per cent in the liquor and approximately ¾ of 1 per cent in the solid forms which, however, gives little or no trouble in the majority of uses in this country.

MANUFACTURE OF CAUSTIC POTASH

These muriates are dissolved in water at the caustic producer's plant to form brine and after further purification and filtering for the removal of small amounts of impurities the resulting pure brine is then fed to the electrolytic cells. Under the influence of the electric current hydrogen and chlorine are liberated and caustic potash, is formed in solution in the "cell liquor." This cell liquor, testing from 10 per cent to 12 per cent KOH and carrying an equivalent quantity of KCl in solution is then concentrated to a 50 per cent KOH strength and the excess salt, which precipitates out, is removed. All of the impurities such as salt, carbonate, iron, etc., are not completely removed at this point due to their solubility at this strength caustic potash liquor. We can say, however, that they are about at their saturation point. Further purification of this liquor therefore by filtration removes all the excess salt, carbonate and iron with the resultant clear, water-white caustic potash liquor which consumers receive today in large and small quantities. These so-called small impurities of salt (½ to ¾ per cent)—carbonate (¼ of 1 per cent) and iron (5 ppm) cause little or no concern.

The bulk of the caustic potash used today is shipped and used in the form of liquid mainly from the standpoint of ease in handling or economic reasons. This strong 50 per cent caustic potash liquor is also fed to direct-fired kettles for further evaporation to either 85 per cent or 90 per cent KOH.

FORMS AND CONCENTRATIONS

Before going into the available forms of caustic potash, I want to point out, that in the present-day market or should I say—near future market—the term "tailor-made" raw materials is not by any means new to the caustic potash producer. We believe we have been doing this very thing for years and will continue to do so in the future as long as new problems arise. The best proof we have for this "tailor-made" raw material trend is the fact that we have today to begin with—two types, first, caustic potash-regular, and second, caustic potash—low chloride. The former is made up in eight different forms consisting of solid, flake, granular, broken, walnut, crushed, powder and liquid. The solid, flake and granular in two different strengths—85 per cent and 90 per cent—and the liquid in two different strengths—45 per cent and 50 per cent KOH. These forms in the case of the anhydrous material are available in 24 varying sized packages from 25 pound drums to 700 pound drums according to product. In the case of the liquid—caustic potash is available in two different packages—the 55 gallon drum and tankcars. The caustic potash low chloride is available in three different forms—solid, flake and liquid—the anhydrous testing approximately 85 per cent KOH packed for shipment in three different sized packages from 100 pounds to 700 pounds varying with the product; the liquid in two different packages—55 gallon drums and tankcars. Each and every one of these types and forms were developed to meet some exacting requirement by industry.

In the not too distant past when the caustic potash used in this country was material imported from Germany—the bulk was in the form of solid and some available in flake form. When the domestic producers started manufacturing during World War I it was mainly in these two forms. With the demand for potash exceeding all production facilities and the raw material muriate of extremely poor quality—there was no question but the domestic material was a far cry—from the quality standpoint—as compared to the German material. I remember seeing samples of solid domestic-produced material that had a color "sixteen shades darker than coal" with a resultant solution not much better—requiring days for the iron to settle out.

Inasmuch as the consumer in most instances used caustic potash as a solution by dissolving the solid—the domestic producer then turned most of his efforts to developing a liquid caustic potash that would bring about a liquor of higher quality than that obtained from dissolving the foreign solid. Due to lower production, packaging and shipping costs—domestic producers were able to offer liquid caustic potash to the consuming industries at a lower cost. These lower costs boiled down to a price differential between solid and liquid amounting to 50c. per hundred pounds in favor of the liquid. Continued improvements in the quality of the raw material and manufacturing improvements in the finished product have resulted in the present water-white caustic potash liquor.

RATES DETERMINE SHIPPING FORM

Originally caustic potash liquor was shipped mainly as strong liquor testing 48-50 per cent because of the saving in freight. The use of this form of caustic potash showed a saving over caustic potash-solid in the neighborhood of $3 to $4 per ton. Based on selling price differential alone — a substantial saving — and with other added savings accruing at the consumer's plant in handling—the saving runs into figures much

higher. The limitation on this saving, however, is set by the freight rate applying on the liquor and where this rate is less than 50c. per hundred pounds (the differential between the selling cost of the liquid and solid) then the liquid delivered cost is below that of the solid but where the freight rate exceeds 50c. the freight advantage is in favor of the solid form. The use of liquid requires the consumer to have a railway siding available for unloading purposes.

SHIPMENT OF WEAKER LIQUOR

One objectionable feature encountered in many instances with the use of this strong caustic potash liquor was the freezing point—or the point when crystallization took place due to cold weather. Not all plants had ample steaming facilities to thaw out cars—and since this liquor will crystallize at approximately +46 deg. F. —this was a continuous problem during the winter months. The redissolving of the crystals was a slow job and the resultant solution not always uniform in strength due to lack of agitation. This difficulty was overcome by purchasing the liquor in the 45 per cent KOH strength instead of the strong 48-50 per cent KOH. The weaker liquor (45 per cent KOH) does not crystallize or precipitate crystals until the low temperature of —22 deg. F. is reached and even at this temperature can be super-cooled to some extent. The use of such a liquor, in most instances, will overcome steaming or redissolving problems, and only in rare cases of extreme winter conditions—occurring only once in 25 years when such low temperatures are reached—does the use of this liquor ever create a problem. In our experience we have never had a freezing problem come up with the use of 45 per cent KOH liquor. Of course, where extreme northern located plants are involved, inside storage would be recommended. This weaker strength liquor therefore has become the most widely used because of the freedom from crystallization problems and the further fact that it is shipped uniform in strength from season to season requiring no watchfulness when sudden changes in weather take place. From the economic standpoint the use of this liquor in place of the strong 50 per cent liquor only results in an added cost of approximately 50c. per ton. There is no question but for the large user of caustic potash, having railroad facilities for handling it, that caustic potash liquid is the most economical form to use from the price angle alone. Handling costs are materially lower, requiring only the operation of a pump for unloading and pumping and does away with the continual shifting of drums which are heavy and awkward to handle.

Caustic potash-solid is the next most economical form to use and where no immediate railroad sidings are available. The old practice of dissolving this form by punching holes in the drums and lowering them into a dissolving tank filled with water has been more or less done away with. Over a period of years we have endeavored to convince soapmakers who are iron conscious, that the iron in the steel drums was readily attacked by the hot caustic solution with the result that the practice of stripping the steel from the drums was finally almost universally accepted. Not only is there less danger of higher iron impurity in the resultant liquor but no contamination is encountered from the protective paint coating which the producer generally applies to his drums. This dissolving job was also made easier by the use of special lifting tongs to handle heavy 700-pound cakes of solid potash. This was another alkali industry step in meeting a bothersome requirement in the soap industry.

IRON CONTENT IN 85 PER CENT KOH

So much hue and cry has been made in past years by consumers of this form of potash — particularly from the standpoint of iron content —that an 85 per cent KOH product was developed containing 1/5th the amount of iron as compared to the 90 per cent KOH. This strength material has been in most instances adopted in preference to the 90 per cent material because of this lower iron content.

In instances where water is objectionable in the use of caustic potash —or where small batches are to be made up—then caustic potash in the form of flake, crushed, powder, granular or broken can be used. The physical and chemical characteristics of each of these forms are readily obtainable from the caustic potash producer—each having its own particular place in varying industries. The flake and granular are also available in either 85 per cent or 90 per cent KOH strengths and, as pointed out before, the iron content is the determining factor as to which should be used. The granular form developed for the drain-cleaning and electroplating fields has found favor because of its uniform particle size relatively small (about the size of the head of a pin) as compared to the regular flake.

Caustic potash-walnut is primarily consumed in the air liquefaction industry being used to pack scrubbing towers requiring high efficiency in absorption and rather long life before replacing.

All of these forms require extra processing with resultant increase in selling prices over the liquid and solid forms but where is the "tailor" today who doesn't have to charge for that little extra something—and in this industry it is even more necessary due to high investment in equipment and the fact that handling chemicals at any time is relatively hazardous.

CARBONATE AND CHLORIDE

Caustic potash-liquid tests either 45 per cent or the strong liquor 48 to 50 per cent KOH and contains approximately ¼ of 1 per cent carbonate—and about ¾ of 1 per cent chloride. These quantities are not far from the saturation point in this strength liquor and, inasmuch as this liquor is shipped crystal-clear, any appreciable increase in the above specification percentage would result in a cloudy or milky liquor. These so-called impurities in the above concentrations can have little or no concern in the soap industry since the carbonate is just another form of alkali anyway which is used up in saponification and the chloride has little or no detrimental effect on soaps in general.

PRESENT IRON CONTENT OF KOH

The KOH, carbonate and chloride make up the bulk of the specifications in the present-day caustic potash-liquid. Iron, of course, to the soaper has always been to him the root of many troubles—however, this form of liquor today is packed for shipment with less than five parts per million of iron. It may be lowered but caustic potash is generally shipped in iron containers so that

under most conditions arrives at the soaper's plant containing from 5 to 10 parts per million. Time and again the question is raised as to why all the iron is not removed or why the material is not shipped in special containers other than iron or in special surface-treated containers—this can be done but to little purpose inasmuch as after arriving at the soap plant it is handled through iron pipelines and pumps and invariably boiled up with the fat and other ingredients in an iron kettle, which probably have equal or greater quantities of iron, making us wonder if much of this iron-talk is unnecessary —always keeping in mind that the quantity of iron we are talking about is 5 parts per million or less. It is also well to remember that the determination of this small amount of iron requires one of the finest colorimetric tests in the laboratory.

The impurities in the solid forms of caustic potash which are made from the liquor we have just been describing, are, of course, somewhat higher in the case of the chloride and carbonate—corresponding to the increase in strength. The chloride content is about double that in the liquor or approximately 1.5 per cent. The carbonate tests about 1.0 per cent which is considerably higher than the liquor due to the affinity of this material for CO_2. Neither one, however, is of concern in such concentrations to the soap industry.

IRON CONTENT OF SOLID KOH

The iron content of the solid form is much higher than in the liquor due to the fact that this element potassium (k) is far more reactive chemically than other alkalies such as soda—for instance—and the corrosive attack on steel very drastic with the resultant iron increase running about 100 parts per million.

All other impurities such as sulphates, silica, lime and magnesia are extremely small and cause little or no trouble.

If better caustic potash is required for the soap industry we stand ready to produce it. As a matter of fact—we have developed a much purer caustic potash both in liquid and solid form—known as low chloride caustic potash. This was developed in our "tailor made" program to meet the exacting requirements of other industries. Its main difference is the very low chloride content testing approximately .019 per cent as Cl in the solid form as against approximately .75 per cent as Cl in the regular material and approximately .01 per cent as Cl in the liquor as against .35 per cent as Cl in the regular material. This grade of potash because of special processing sells at a higher price than the regular material but warrants its higher cost from the quality standpoint for those industries where salt is a factor. Whether this product or even a purer product would make a better soap is the soaper's problem but it is available when the requirement makes it necessary.

German Soap Industry

Detailed information on the German soap industry and on German chemical developments in emulsifying agents and synthetic detergents and wetting agents is presented in three comprehensive reports, now available in both photostat and microfilm form.

The serial numbers, titles, authors, and prices of the reports follow:

No. 2421. The German Soap Industry, by M. L. Sheely (59 pages; $4.00 per photostat copy; $1.00 per microfilm copy).

No. 3867. German Chemical Developments in Emulsifying Agents, by Lester F. Hoyt (46 pages; $4.00 per photostat copy; 50 cents per microfilm copy).

No. 3868. German Chemical Development in Synthetic Detergents and Wetting Agents, by Lester F. Hoyt (151 pages; $11.00 per photostat copy; $2.00 per microfilm copy).

Except for the introduction of synthetic detergents into household products and the development of several new types of synthetic detergents, no new soap products or soap production methods have been developed by the Germans since 1933, according to Mr. Sheely. Technical developments in this field apparently were limited to attempts to extend soap and soap products. Extension was accomplished through substitution of synthetics and the use of increased amounts of alkalies and addition of inert fillers.

The outstanding German development in the field of synthetic detergents is reported by Mr. Hoyt as having been large-scale production of "Mersols," made from by-products of the Fischer-Tropsch synthesis of hydrocarbons from coal and used mainly by soap makers, for conversion into a synthetic detergent.

"Mersol D," a crude product yielding mediocre detergents reportedly represented the bulk of German production of "Mersols." "Mersolat H," a better-quality product than "Mersol D," also was produced. Total production of "Mersols" is said by the Germans to have reached 70,000 metric tons per year, but air raids caused a considerable drop in output.

Two other classes of detergents, "Igepons," based on natural fats or oils or on synthetic fatty acids, and "Igepals," based on ethylene oxide, are reported by Mr. Hoyt as being very useful, and superior to those made from "Mersols." One of the drawbacks to the use of "Mersol D," according to German soap makers, is that it requires twice as much caustic soda for saponification as do oleic and other fatty acids.

Wholly synthetic emulsifiers developed by the Germans are said by Mr. Hoyt to be of excellent quality. The most important emulsifiers developed from synthetic sources reportedly were "Emulphor STH," which is essentially the sodium salt of "mepasin" sulfamidoacetic acid. "Mepasin" is a special type of hydro-carbon obtained by the Fischer-Tropsch synthesis of hydrocarbons.

"Emulphor STL," and particularly "Emulphor STH," were found by the Germans to be valuable for use in making cutting oils for metal processing.

Use of "Emulphor STH" in place of soaps or sulfonates to emulsify lubricating oils for deep drawing of steel and lightweight non-ferrous alloys reportedly permitted much greater deformation of the metal in one draw than was possible with the use of soaps following Bonderizing. Use of "Emulphor STH" solution in production of 88-millimeter steel shell casings, is reported to have resulted in a perfectly smooth finish.

Reports 2421, 3867, and 3868 may be ordered in Room 1326, Commerce Building, or by mail. Mail orders should be accompanied by check or money order, made payable to the Treasurer of the United States, and should be addressed to the Office of the Publication Board, Department of Commerce, Washington 25, D. C.

FLAVORS

Ketones as Flavor Components

Many ketones hold an important position as flavor compounding components because they contribute a distinctive nuance

by MORRIS B. JACOBS, PH.D.
Adjunct Professor of Chemical Engineering, Polytechnic Institute of Brooklyn

THE esters, if not the most important components of artificial flavors, are certainly major components. The role that aldehydes play has been discussed by the author in previous articles. It should prove of interest to discuss with equal emphasis the role that ketones play in flavor formulations. Certainly the importance of the ionones in raspberry and violet flavors is not to be underestimated. Nor for that matter can one neglect the part that diacetyl and acetyl methyl carbinol play in the formulation of butter flavors.

CLASSIFICATION

For some reason, the ketones have not been surrounded to the same extent with the mysterious nomenclature assigned to the aldehydes, pseudaldehydes and the alcohols. It may well be that the difficulty of synthesizing some of the more important ketones eliminated the necessity for concealing their structure by means of generalized names.

One could for the sake of consistency and uniformity classify the ketones as the aldehydes were classified, namely as aliphatic ketones, terpene ketones and aromatic ketones, but this classification cannot be adhered to strictly because many of the ketones are mixed alkyl aryl compounds like acetophenone or methyl phenyl ketone. Others like the ionones are really compounds with more than one functional group. A more preferable classification and one which will be followed here is to place all the ketones into two large classes, the open chain compounds such as amyl methyl ketone, methyl heptenone, etc., and the cyclic ketones such as the ketones containing a benzene group, the cyclocitrylidene derivatives and the terpenes.

USE

Ketones are organic compounds of the type $R.CO.R^1$ containing the bivalent $>CO$ group. In their relationship to flavoring materials, the lower molecular weight ketones have little use. Just as in the case of the aldehydes the first ketone of any importance is a C_7 compound, *n*-amyl methyl ketone. Unsymmetrical ketones appear to have greater flavoring power than symmetrical types.

Most often ketones are used in small quantities as intensifiers and modifiers but it is possible that with ketones such as amyl methyl ketone which has an odor similar to isoamyl acetate or heptyl methyl ketone and methyl nonyl ketone, which have an odor resembling oil of rue, they may possibly be used in more substantial amounts.

OPEN CHAIN KETONES

Amyl Methyl Ketone. — *n*-Amyl methyl ketone, $CH_3(CH_2)_4COCH_3$, methyl *n*-amyl ketone, 2-heptanone, is a colorless liquid with a marked fruity odor analogous to that of isoamyl acetate. It has a bitter-sweet taste and a pear flavor. Its specific gravity is 0.817-0.822 and it boils at 149-152 deg. C. One part is soluble in about 225 parts of water and it is soluble in alcohol. It has been synthesized by oxidation of amyl methyl methanol with chromic acid, and by passing the vapors of butyl alcohol and acetone over alumina heated to 300 deg. C. Because of its similarity to isoamyl acetate it has a wide application as a flavoring material, thus it may be used advantageously in apple, banana, blackberry, date, cranberry,

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currant, Emperor-pear, gooseberry, grenadine, hops, huckleberry, mulberry, nut, peach, pear, pineapple, plum, quince, orange, tangerine, strawberry, and raspberry flavors. An amyl methyl ketone is said to be a component of essential oils of cloves and cinnamon.

Hexyl Methyl Ketone. — Hexyl methyl ketone, $CH_3CO(CH_2)_5CH_3$, 2-octanone, is a liquid with a specific gravity of 0.818-0.821 and a boiling point of 172-3 deg. C. It has an odor which resembles mignonette. Depending on its source it may have a bitter, burning taste and a caraway flavor or a sweet taste and a peach aroma. It is insoluble in water and miscible with alcohol. Suggested flavoring essences are apricot, peach and plum for the sweet type and caraway essences for the bitter type.

Amyl Ethyl Ketone.—*n*-Amyl ethyl ketone, $CH_3CH_2CO(CH_2)_4CH_3$, 3-octanone, ethyl *n*-amyl ketone, is a liquid with an agreeable aromatic, penetrating fruity odor, a bitter-sweet taste, and a fruity flavor. Its specific gravity is 0.825 and it boils at 169-170 deg. C. This ketone may be prepared synthetically by passing caproic and propionic acids over thorium oxide at 400 deg. It is present in small quantities in lavender oil and has been suggested for use in apricot and peach flavors.

Methyl Heptenone.—Methyl heptenone, $(CH_3)_2C{:}CHCH_2CH_2COCH_3$, 6-methyl-5-hepten-2-one, is a colorless liquid with an odor resembling amyl acetate. It has a bitter-sweet taste and a pear flavor. Its density ranges from 0.860-0.866 and it boils at 172-174 deg. C. It is insoluble in water and is miscible with alcohol. Methyl heptenone can be synthesized by oxidation of geraniol and citral with chromic acid or by heating citral with potassium hydroxide solution. Because of its similarity to amyl acetate in flavor and odor, this ketone can be used as a component in analogous fruit essences, namely, apple, banana, blackberry, currant, date, mulberry, peach, pear and pineapple.

Heptyl Methyl Ketone. — Heptyl methyl ketone $CH_3CO(CH_2)_6CH_3$, 2-nonanone is a practically colorless liquid with a pleasant odor of rue. It has a specific gravity of 0.835 and a boiling point of 196 deg. C. Together with methyl nonyl ketone it comprises about 90 per cent of Algerian oil of rue but it comprises only about 5 per cent of European oil of rue. This ketone may be obtained as an isolate from the Algerian source. It is also found in small amounts in oil of cloves. Because of its marked resemblance to methyl nonyl ketone it is used for analogous flavor formulations.

Trimethyl Hexanone.—Trimethyl hexanone, $C_9H_{18}O$, is a colorless liquid with a pronounced aromatic odor which boils at about 157-160 deg. C. It occurs naturally in the oil obtained from labdornan resin and is used to give nuance to blackberry and huckleberry essences. Several isomers such as 2,2,5-trimethyl hexanone, $(CH_3)_3CCOCH_2CH(CH_3)_2$, have been synthesized.

Methyl Nonyl Ketone. — Methyl nonyl ketone, $CH_3CO(CH_2)_8CH_3$, nonyl methyl ketone, 2-hendecanone, is a colorless, oily liquid with an odor resembling oil of rue having a sweet orange odor, a very sweet taste and a peach flavor. It has a specific gravity of 0.828-0.830 and a boiling point of 228-230 deg. C. It is insoluble in water and soluble in alcohol. It can be obtained by distillation of calcium caprate and calcium acetate, but since methyl nonyl ketone is a component of oil of rue and comprises about 90 per cent of the European variety of the oil, it is often obtained as an isolate from this source. The flavors for which it may be employed are clove, lemon, peach, sweet and bitter orange, and tangerine.

Hendecyl Methyl Ketone.—Hendecyl methyl ketone, $CH_3CO(CH_2)_{10}CH_3$, methyl undecyl ketone, 2-tridecanone, is a crystalline solid with a weak but flowery odor. It has a bitter-sweet taste and a coconut flavor. It has a specific gravity of 0.822-0.823, boils at 263 deg. C. and melts at 28 deg. Hendecyl methyl ketone is very soluble in alcohol and is insoluble in water. It can be synthesized by distillation of barium laurate and barium acetate or by heating laurylacetoacetic ester with potassium hydroxide solution. It has limited use in coconut flavors.

Citrylideneacetone. — Citrylideneactone, $(CH_3)_2C{:}CHCH_2CH_2C(CH_3){:}CHCH{:}CHCOCH_3$, pseudoionone, is a viscous, oily liquid with a penetrating odor of citronella. It has a bitter-grassy taste and a characteristic odor of its own that recalls lemon. It has a specific gravity of 0.898 and boils under reduced pressure at 143-145 deg. C. (12 mm.). It is used only in small amounts to shade apricot, black currant, gooseberry and cranberry fruit essences.

In a succeeding article the cyclic ketones that is the cyclocitrylidene derivatives, the ketones having a benzene radical, the terpene ketones and other cyclic compounds will be discussed.

Flavored Notes

I received a query concerning cylcohexyl butyrate. This ester which is also called cyclohexanol butyrate and cylcohexanyl butyrate, $CH_3CH_2CH_2COOC_6H_{11}$, is a liquid with a fruity odor. It has a density of about 0.957 and it boils at 212 deg. C. Cyclohexyl butyrate can be prepared by esterifying 1 mole of cyclohexanol with 2 moles of butyric acid in the presence of 3-4 volume-per-cent of sulfuric acid at 100-110 deg. C. It has been recommended for the preparation of currant, peach, and strawberry formulations. Suppliers are the Fairmont Chemical Co., Inc., 136 Liberty St., New York 6, N. Y., and Kessler Chemical Co., Inc., State Road and Cottman Ave., Philadelphia 35, Pa.

* * *

Because of the salting out effect on dyes that the salt they normally contain may exert, it is important to dissolve any batch of certified color in small portions at a time instead of in one batch. In the latter case all the salt may dissolve and inhibit solution of the dye.

* * *

Often the addition of a synthetic flavor ester to a major component essential oil in the preparation of a flavor mixture gives the product far more individualism and diminishes the characteristic commercial essential oil note.

* * *

The maceration method of manufacturing natural vanilla extract can be speeded up by providing a shaking or rocking mechanism for the holding vessel.

* * *

It is surprising that fumaric acid has found so little use in flavor formulations. Recent work has indicated that the fumarates are no more toxic than the tartrates.—*M.B.J.*

Flavor Studies on Pineapple

The knowledge of flavor components is of vital interest to the consumer as well as the manufacturer

by DR. A. J. HAAGEN-SMIT

Professor of Bio-organic Chemistry, California Institute of Technology, Pasadena, Calif.

THE exact knowledge of the flavor of our natural products is of importance to the scientist who studies the processes going on in the plant during fruit formation. This interest is shared by the producer as well as the consumer of these products. The grower who wants to improve the flavor of his products by varying the agricultural and climatological condition and wants to create hybrids with better and higher flavor content, is benefited by a better understanding of the chemical processes in the plant and the application of these findings in an objective method of determining the flavoring components. In the processing of his products, such as canning, it is of importance to protect the flavor substances, which are subjected during storage to the influence and the possibility of reaction with other constituents. In the production of dehydrated materials it has become more and more evident that a large percentage of flavor is unavoidably lost and a reflavoring with preferably a flavor identical with the natural product is desirable.

SYNTHETIC FLAVORS

The synthetic flavor industry has at an early date recognized these needs and often by skillful combination of known synthetic products, a more or less satisfactory reproduction of the natural flavor has been accomplished. This way of solving the flavor problem has naturally reached its limit when we are dealing with compounds of unknown structure. In that case a painstaking analysis of the natural product has to be made, the flavor principles have to be isolated and their structure determined. Many examples of this kind of work are found in the analysis of the fragrance of herbs and flowers, but scant attention was paid to the perhaps less spectacular flavors of vegetables and fruits, which are often only noticed when they are absent.

The search for the flavor components resembles in certain aspects the tracing of physiological substances, such as vitamins and hormones. In both cases the methods to be used are dictated by the occurrence in extremely low concentration in the starting material. Even when working with thousands of pounds of materials the amounts finally obtained as pure products are so small that microanalytical methods have to be applied to solve the problem. In both cases a physiological assay method is used during the isolation process. For the flavors, it is smell and taste which serves as a guide; for the vitamins and hormones, their physiological effects, such as growth, are measured.

To illustrate these points, I will briefly review an investigation on the flavor of pineapple carried out at the request of the Pineapple Research Institute of Hawaii.

FLAVOR COMPONENTS OF PINEAPPLE

Since it was of importance to obtain an accurate idea about the quantity and nature of the volatile products present in the fresh pineapple, precautions were taken to protect the natural flavoring material as much as possible from the damaging influence of heat. Since also the use of large amounts of solvents for extraction was objectionable, vacuum distillation was decided upon whereby the volatile material going over with the water was collected in different traps ranging from a temperature of 25 deg. C. to that of liquid air, circa —147 deg. C. In this way a few ounces of oil with characteristic odor of pineapple were collected from several tons of fruit. The residue of the distillation contained the rather unspecific non-volatile flavor components of the pineapple, largely made up of a mixture of plant acids, such as citric, malic acid and several sugars.

DISTILLATION FRACTIONS

It was evident that the volatile mixture consisted mainly of esters, and since a hydrolysis before fractionation would make it impossible to know which alcohol belonged to a certain acid part, the distillate was immediately fractionated. The result of such a fractionation is seen in Figure 1, which shows the weights of the fractions distilling at different temperatures. The fractions were then individually analyzed for their components. The ester fractions were hydrolyzed and the alcohol part characterized by crystalline derivatives, respectively 2, 4-dinitrobenzoates and p-phenylphenacyl esters and these derivatives were compared with synthetic material of the same chemical structure. The small amounts of material, especially in the higher fractions, mostly not more than a few tenths of a gram, made it necessary to work as quantitatively as possible. Methods had to be developed whereby the closely similar acids could be separated from each

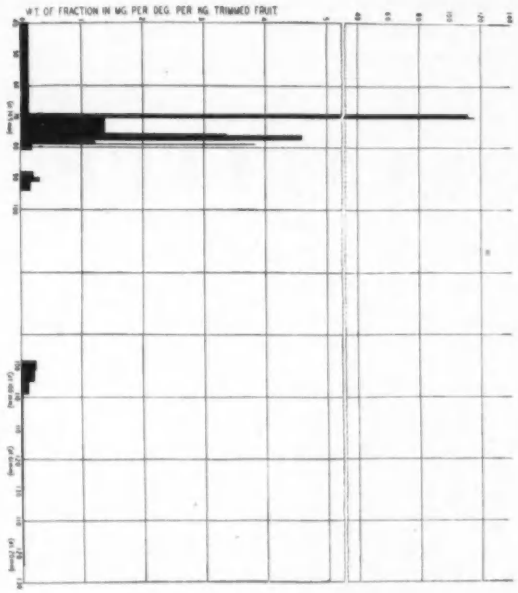

Fig. 1. Distillation of summer fruit

other. In some cases the mixture of substances were converted into colored derivatives and the mixtures separated into colored bands when poured on columns containing absorption agents.

A similar process using fluorescent derivatives gave beautiful bands of different color in ultraviolet light. These bands can be cut out of the column and after elution, the pure derivative may be analyzed.

STRUCTURE OF COMPOUNDS

In both winter and summer fruit, as well as in the peel, it was observed that small amounts of organically bound sulphur could be detected. After careful refractionation, it was possible to separate this sulphur compound from its also liquid impurities by oxidation to the corresponding sulfone. The analytical data limited the number of possible structures to nine. The syntheses of these established the structure of the pineapple ester as β-methylthiolpropionate, CH_3-S-CH_2-CH_2-$COOCH_3$, a liquid with a peculiar fruity odor. The results of this analysis is compiled as follows:

Winter fruit (1939-1940)	*Mg./kg. fruit*
Ethyl acetate	2.91
Acetaldehyde	0.61
Methyl isocaproate	1.4
Methyl isovalerate	0.6
Methyl n-valerate	.49
Methyl caprylate	.75
Methyl ester of five carbon hydroxy acid	Trace
β-methylthiolpropionate	1.07

Summer fruit (1940)	*Mg./kg. fruit*
Ethyl acetate	119.6
Ethyl alcohol	60.5
Acetaldehyde	1.35
Ethyl isovalerate	0.39
Methyl n-propyl ketone	Trace
Ethyl acrylate	0.77
Ethyl n-caproate	.77

Summer fruit (1942) boiling above 100° at 745 mm.	
Acetic acid	0.49
Ethyl ester of a C_5 unsaturated acid	1.08
Methyl ester of a C_5 unsaturated acid	0.68
Methyl ester of a C_5 keto acid	Trace
β-methylthiolpropionate	0.88

When an analysis of this kind has been carried out, the student of the physiological processes will speculate on the formation of these compounds. Undoubtedly many esters find their origin in processes involving carbohydrates. In the case of the sulphur containing compounds, we may suspect a connection with amino acid metabolism. The similarity of the formula of this thio acid to cysteine and methionine indicates the possibility that this compound is formed from one of these amino acids in the fruit.

$$HSCH_2CH(NH_2)COOH$$

methylation

deamination

$$CH_3SCH_2CH_2COOCH_3$$

$$CH_3SCH_2CH_2CH(NH_2)COOH$$

oxidation

deamination

β-methylthiolpropionate

Those interested in agricultural application of these analyses will note a large difference between summer and winter fruit. The more aromatic summer fruit has a much greater volatile oil content than the bland winter fruit; 190 mg. per kilogram of trimmed summer fruit (1940) and 15.6 mg. per kilogram of winter fruit (1939-40). This difference is most pronounced in the low boiling fractions, mainly in the ethyl acetate and ethyl alcohol content. The acetaldehyde content, although small, was twice as great in the summer fruit, amounting to 1.35 mg. per kilogram of trimmed fruit. These findings were confirmed in a series of determinations on single fruits. In this way aromatic hybrids were shown to possess a considerable higher ester content, sometimes as high as ten times over the already fragrant summer fruit.

Interesting also is the predominance of ethyl esters during the summer ripening, in contrast to the formation of methyl esters in the winter time. The higher boiling constituents are not subject to these large variations, but are present in summer and winter fruit in about equal quantities. The same holds true for the sulfur ester, which is present in quantities of circa 1 gram per 1000 kg. trimmed fruit. A comparison of the distillation curve of the summer fruit, Figure 1, with that of the winter fruit, Figure 2, clearly illustrates these points. Especially noteworthy is the disappearance of the ethyl acetate and alcohol tops in the winter fruit.

PROCESSING OF PINEAPPLE

Perhaps the most immediately concerned about the outcome of the flavor analysis will be the processor of the foods, when he wants to know the efficiency of his canning process, the effect of storage and the possibility of rejuvenating his product with the artificial flavors. A reconstitution of the oil according to the

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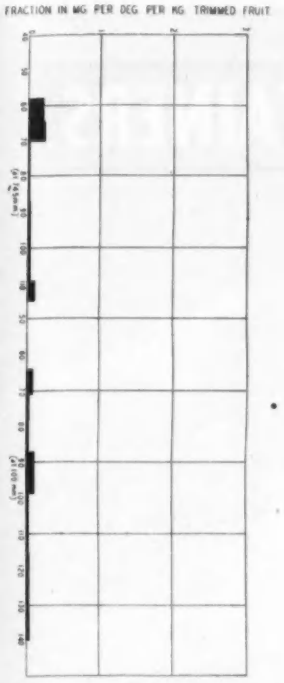

Fig. 2. Distillation of winter fruit

analytical data was, therefore, of interest, even when the analysis does not comprise all of the components which are present in the volatile pineapple flavor. This work was interrupted after 98 per cent of the oil was positively identified and enough data had been collected to serve the purpose for which the work was started, namely a better understanding of fruit ripening and an objective control of agricultural and canning procedures. We were gratified to find that the oil satisfactorily reproduced the oil which we had collected by the low temperature distillation of fresh pineapple. In judging these results, however, it should be remembered that relatively few people have privilege of tasting a really fresh pineapple, which is eminently more fruity and has considerably less of an isobutyric smell than canned pineapple. It is apparent that during canning and storage the hydrolytic processes continue to act and several of the acids are set free which contribute to the typical canned pineapple smell, the smell in which the synthetic flavor industry has specialized.

Our present mode of living makes it necessary to conserve many foodstuffs, meat, as well as vegetables, longer than was considered good practice a few years ago. The public is well aware of the importance of retaining the vitamin content in these stored and processed foods. Similar progress will be demanded towards making these foods more palatable. Already this aspect of our food intake is receiving increased attention from both medical as well as nutritional experts and their importance for our well-being should not be underestimated. Improvements in this direction require a knowledge of the chemical components responsible for taste and flavor and this knowledge can only be obtained by painstaking chemical analysis of the natural product.

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[1] A. J. Haagen-Smit, Justus G. Kirchner, Arthur N. Prater and Clara L. Deasy, Chemical studies of pineapple (*Ananas sativus Lindl*). I. The volatile flavor and odor constituents of pineapple, J. Am. Chem. Soc. 67:1646 (1945).

[2] A. J. Haagen-Smit, Justus G. Kirchner, Clara L. Deasy and Arthur N. Prater, Chemical studies of pineapple (*Ananas sativus Lindl*). II. Isolation and identification of a sulfur-containing ester in pineapple, J. Am. Chem. Soc. 67:1651 (1945).

[3] A. J. Haagen-Smit, A. G. R. Strickland, C. E. P. Jeffreys and J. G. Kirchner, Studies on the vitamin content of canned pineapple, Food Research (in press).

[4] J. G. Kirchner, Arthur N. Prater and A. J. Haagen-Smit, Separation of acids by chromatographic adsorption of their p-phenylphenacyl esters, Indus. & Eng. Chem., Anal. Ed. (in press.

F.E.M.A. Meeting

Registrations for the annual meeting of the Flavoring Extract Manufacturers' Association to be held in the Drake Hotel, Chicago, Ill., June 2, 3 and 4, are exceeding all expectations according to President Garret F. Meyer.

Clarke E. Davis

Garret F. Meyer

Plans for the convention are well advanced and already Dr. Clarke E. Davis, chairman of the convention committee, has announced that Paul S. Willis, president of the Grocery Manufacturers of America, Dr. F. J. Cullen of the Proprietary Association and Hoyt C. Bonner an authority on the sugar situation, have been secured as speakers.

Entertainment for the ladies will include a luncheon and bridge game Monday, and a tour through leading department stores and luncheon Tuesday with a bingo game in the afternoon. A golf tournament for men will be held Tuesday afternoon. The banquet is planned for Monday evening.

All told an unusually vital program is planned and all who wish to attend should send their registrations to Dr. Clarke E. Davis, chairman of the Convention Committee, 882 Third Ave., Brooklyn 32, N. Y., as soon as possible and also make their hotel reservations direct with the hotel.

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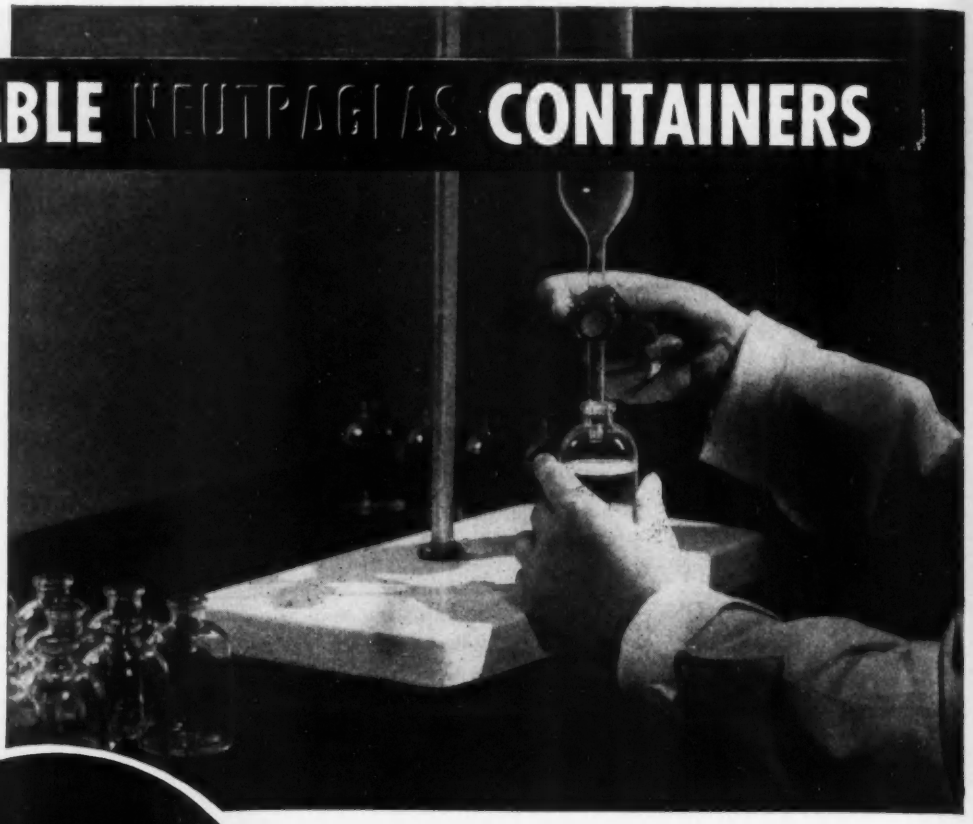

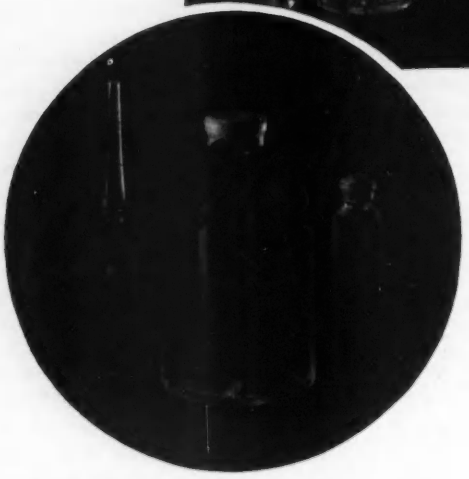

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by ARNOLD KRUCKMAN

MORE than by any other single factor, we, here in the Capital, find the cosmetics, toiletries and flavors industries are troubled about containers. Government observers naturally find the distress is almost universal among all industries which use containers of any kind made of wood, paper, glass, metal or plastics. And it seems to be the common opinion that an adequate supply would actually exist except for the fact that every business and every industry which uses containers has expanded to such an extent that the demand for the supply, which would be normal, has ballooned beyond all expectations.

On top of this extraordinary expansion there is now a sudden need for a huge quota of all kinds of containers to ship foods and other materials to Europe and elsewhere to fill the relief program. There have been definite indications of the consciousness in CPA and other Government agencies that it would be unfortunate if controls of any kind again were necessary.

DEMAND FOR CONTAINERS

In the Department of Commerce General Products Unit, the expert on containers, Morris Moses, hopes that the historic ingenuity of Americans will find a way to make the existing capacities of supply capable of approximately meeting the situation. The demand upon industries, such as the toiletries, cosmetics, and flavors producers, is bound to continue to expand for a very considerable period ahead; and the global dislocations and chaos do not give promise that basic materials, such as are used in containers, will be in balance for some time. Moses has interestingly pointed out that the war has introduced revolutionary changes in the packaging field, and that many of these changes stem from the forced development of new materials and fresh methods, and that most of these changes in type, form, and materials have not yet caught up with the peacetime economy. He suggests that it is wisdom to study the improvements in metal, glass, and wooden containers, and in the novel new types of flexible packaging. He points out that special results are obtained by the use of paper, transparent film, and metal foils, in combination, which have achieved many desirable effects, including resistance to moisture, grease, heat, cold, light and insects. It seems to be the current idea in Government groups that some of these novelties, yet unused in civilian life, may turn up conspicuously in the gigantic relief shipments, and blaze the way for their introduction into our domestic economy, particularly by way of the normal export in huge volume, which is expected to pick up where the relief program eventually leaves off.

It is particularly interesting to readers of THE AMERICAN PERFUMER to learn that folding and set-up boxes have been used for many new purposes developed during the war, and that the new uses have been carried over into the civilian economy in substantial volume. The same is true of fiber cans, and of corrugated fiberboard boxes. The V boxes, which were so important during the war, are expected to have their counterparts in a series of X boxes, which have been devised by the corrugated paper and fiberboard people, at the direction of the Department of Agriculture, for the relief shipments to all parts of the world. It may be valuable for the various industries to follow the evolution of these boxes. They are expected to be shorn of the extremely tough qualities of the earlier V boxes, but to have other virtues which will make them exceptionally valuable to distributors in domestic as well as export trade. This word of caution from Moses may be useful: he suggests before adopting new packages it will be wise for the merchandiser to seek technical advice; he says often the expert himself is stumped until he experiments. There are now independent packaging research establishments, trade association research institutions; and the manufacturers of containers and packaging materials have highly efficient laboratories and well trained technical staffs.

PAPER PRICE RISE

It is not known yet whether or not the recent hike in price on corrugated and other paper board, imposed by OPA in MPR 32, effective April 1, will extend down to the ultimate user of the finished product. The same reservation holds good in regard to the amendment to MPR 32, issued on April 1, which raises the manufacturer's price for all Kraft paper products. The orders do not make clear how far the raise extends. It may be that the added cost must be absorbed by the fabricators and the distributors. The latest report from the Bureau of the Census gives production of folding boxboard, aside from food

SINCE 1768–

– – – when Antoine Chiris first advertised the establishment of the House of Chiris in Grasse, in the French Alpes Maritimes, the firm has played a leading part in the Essential Oil and Floral Absolute industry throughout the world.

Despite the troubled times of the last 200 years, the House of Chiris has achieved a steady progress. Normally employing a staff of 7,000, the firm is now represented wherever Essential Oil production plants are to be found.

Throughout the years of World War 2, when the American House of Chiris was completely cut off from its affiliations in France, it continued, under wartime restrictions to serve its clients in the best tradition of the House.

Chiris' New York laboratories produce the finest aromatic creations which can be supplied under present conditions. The situation is improving rapidly. Not only has Chiris, New York, been able to import a limited number of essential oils and floral absolutes from France and French empire sources, but its activities in this country are progressing in line with the improved raw material situation.

We look forward to the future with confidence, fully prepared for the resumption of normal and expanding trade, and are ready with our experience, knowledge, and world-wide ramifications to serve the trade again as we have done in the past.

ANTOINE CHIRIS COMPANY, INC.

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container stock, as 175,003 tons for February, and 49,495 tons set-up box-board for the same month.

The added demands for paperboard, from relief shipment sources and from housing sources, as well as labor difficulties, shipping troubles, and the enormous demand for lumber for housing, spells watchfulness in connection with paper containers as well as wooden containers. Labor, shipping, materials, and the huge demand for relief shipments, as well as diversion of facilities to production for potential housing needs, puts a similar constraint on glass containers. The latest Census report shows 619,640 gross narrow neck glass containers for toiletries and cosmetics produced in February, and 142,378 gross of wide mouth containers for the same purpose during the same month.

The Census reports reveal that plastic closures for non-food containers are rapidly assuming a volume almost equal to metal closures. Steel and tin limitations have caused CPA to amend Direction 9 to M-21 and M-81 which require the producers to set aside 15 per cent of their tin mill production for closures and similar inventories. The experts give assurance that the new order will not reduce the production of closures. Lead is apparently constantly becoming scarcer. The usual causes have checked mining in this country, and practically all imports have either dried up or have decreased. CPA recently stressed no new lead deposits have been discovered in America for many years, and that "this country can no longer produce enough lead from domestic sources to satisfy our economy." Fortunately, there have not been recent restrictions that materially affect the use of the lead.

TIN SUPPLY SHORT

Tin is very scarce, only 42,000 tons on schedule for import in 1946, due mainly to breakdown of equipment, lack of transportation, and lack of food for the workers in Asiatic countries. Plastic advances have been extraordinary, and there are enormous facilities which may be put to work to make containers; but the industry suffers from the over-all prevailing difficulties of labor, transportation, and uneven supplies of basic chemical materials. Many groups are engaged in adventures that involve the use of aluminum in making containers. The material is abundant, and will remain plentiful unless the prefabricated housing program and other demands of the housing program absorb a large part of the aluminum now available. Incidentally, the report of the Container Corporation of America, just issued, shows that earnings for January and February this year were over double the earnings for the same months last year.

OPA PRICES

As a general principle it is assumed in the Capital that OPA tends to ease price exactions on things consumers require that do not vitally affect the cost of living. Price ceilings definitely are going up on products made by small volume manufacturers. However, large scale businesses that have small manufacturing divisions will have difficulty in qualifying for comparable high price ceilings. Apparently, the yardstick for small volume production will be $25,000 per month, or $60,000 per quarter. Price control was wiped out in March on a number of items, including imported lime juice, room deodorants, incense, montan wax and I.G. wax, and similar miscellaneous items. The tendency remains to place the burden of absorbing the price increases on the retailers, as well as on other distributors. The theory is that the retailer was the last to feel the effect of cost absorption.

How long OPA will be with us, is not yet clear. The question no longer is whether it will continue to be with us, but how long it will exist. There is little doubt it will be continued for at least a year, and it may be given a new lease of life for 18 months. The signs are plentiful that regulations, which may not be called controls, are on the way back. Many men—and some women—who made things hum here during WPB days, have been called to the Capital for conferences, and it is generally assumed they have been invited to return for a temporary contribution of the very fine service they gave during the war. You will find them in CPA and in OPA and undoubtedly the Office of Defense Transportation will be re-animated.

HOUSING PROGRAM

The housing muddle has inspired a wide consciousness that something must be done. We now have a housing Order, VHP No. 1, which essentially is stiffer than L-41, or anything we had during the war. If and when the whole housing program functions, this Order, literally enforced, will prevent virtually any new building except housing for veterans. You will presumably be unable to make repairs, replacements, or spend money on maintenance of your plant or your business establishment except to the extent of $15,000; and you may not fix up your home beyond the expenditure of $1,000 at the outside. No new plants, stores, hotels, theaters, warehouses, office buildings, or structures of a similar nature of any kind will be permitted. At least that is the theory. In theory not even the veteran will be able to build a low-cost home without a permit for materials from CPA and a permit for building from NHA. But in practice, Mr. Wyatt and his associates have intimated, structural undertakings, which do not absorb the materials required for veterans' housing, will be permitted, and permitted in all likelihood, more freely than seems superficially probable.

The idea seems to be that in places where there is requisite labor, and where there are materials which may be used solely on non-housing structures, it may not be so difficult to arrange permission. The real answer will rest chiefly with the local committees, something like the local WPB committees which determined priorities for materials and men during the critical period of the war. These committees, chosen for their knowledge of the place and the needs of the community,—and probably for their political savvy—will make the determining recommendations. Unhappily, little of this will get started until Congress enacts some law which will enable Wyatt to go ahead with his housing plan. At present all construction is practically paralyzed by the Order, and Wyatt has no over-all authorization with funds to get started.

The building materials people naturally are fighting tooth and toenail to stop the subsidization of the prefabricated housing manufacturers, and are fighting for price increases; and the A F of L is aiding the materials people because it is opposed to the prefabricated housing adventure which chiefly employs the members of the CIO. Meanwhile, Congress, bedevilled by pressure groups from all sides, also is bombarded by millions

of veterans who claim the lack of housing threatens them and others with a breakdown of civilized living, and who threaten to start a gigantic march on the Capital, from all parts of the country, unless something is done quickly. It is not all beer and skittles to live in the Capital right now. The log-jam must be dynamited before May, or the casualties at the primaries may be far greater than is now anticipated, according to Capital reasoning.

ALCOHOL ALLOCATIONS

Frank Bennett, Chief, Alcohol Section, of the Alcohol-Drugs-Pharmaceutical Branch, Chemicals Division, Civilian Production Administration—yes, all that—"significantly suggested, "I would regret to see restrictions on industrial alcohol." The allocation to suppliers, after they have filed an estimate of the needs of their customers, still remains the only control. The huge need of the relief agencies during the next three months will indicate how drastic may be the contraction in the uses of grain for purposes other than food. Congressman Hadwen C. Fuller, New York, introduced a bill, HR 5893, which deserves far more attention than it is getting. He would flatly prohibit the exportation of grain to nations which are manufacturing alcoholic beverages from agricultural products while their people are starving.

The Cuban controversy still is unsettled, and we do not know how much sugar we will get, or how much material we will receive to make our chief supply of industrial alcohol. It is doubtful whether the sugar muddle will be clarified until late Fall. The Cubans have over 5,000,000 tons. They demand many economic satisfactions aside from a preferential tariff, and they wish to be insured against the competition of the Philippine sugar industry, which is in a fair way to capture some of the market if the Philippine growers are given reasonable opportunities to recover.

The Philippine growers have all the advantages of the Cubans: very cheap labor, great potential areas capable of producing rich crops, an ideal climate for the purpose, and they are capable of adequate financing and up-to-date installations. But they need time to recover, and to get set. The House Ways and Means Committee is expected to recommend that the Philippines be permitted to send their sugar to us free of any duty for eight years, and thereafter, until 1974, the duty, starting at 5 per cent of the lowest comparable duty, will increase 5 per cent per annum. In 1974 the duty would be fixed at the lowest rate applied to any other importing country. Meanwhile, the sugar supply in the United States for industrial users and householders is expected to dwindle markedly for at least another year.

Lanolin continues scarce, and is expected to become scarcer. This obviously means we will be lucky if we get through the year without added controls. The total supply of fats and oils is expected to be slightly larger than it was last year, but any increase will be offset by the need to fill the program of relief.

ESSENTIAL OILS

More whale oil is expected from Britain and Norway, flaxseed from Argentina, copra from the Philippines, and tung oil from China. The 1946 gross total is estimated at somewhere between 9,700,000,000 and 9,850,000,000 pounds. Major improvement in soap fats is expected from imports of Philippine copra, and coconut oil. Relatively satisfactory shipments recently arrived. Manufacture of toilet soaps has expanded considerably in keeping with the general expansion, while French and German toilet soaps have been out of the market entirely. Incidentally, our technical scouts report the outstanding development they found in Germany were the "mersols," synthetic detergents made from the by-products of the Fischer-Tropsch synthesis of hydrocarbons from coal. Details are available in a study made by Lester F. Hoyt, and published by the Office of the Publications Board of the Department of Commerce.

Our Government could not purchase the anise offered by the Chinese, consequently it is to be sold through the office of the Chinese Government in New York. It is reported to be offered to the trade at a price between $2 and $3. CPA handles any business connected with essential oils through the office of Henry W. Heine, Chief, Drug Section, of the Alcohol-Drug-Pharmaceutical Branch of the Chemicals Division. Miss Emma D. Schutrumpf's Industry Report, issued by the Chemicals Unit of the Department of Commerce, indicates more bergamot is expected from Italy; some ylang-ylang continues to arrive. The citronella from India, held by Customs at a West Coast port, was finally admitted, but the action is to be challenged in Court by the Government, and further shipments with kerosene adulterant appear to be held in Ceylon for the final decision. The surplus Italian lemon oil, to be sold by the Department of Agriculture, was further held up until veterans, and Government units, as well as States, and other political subdivisions, and non-profit institutions, could have an opportunity to bid on it.

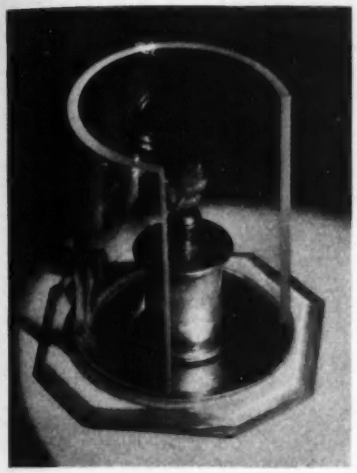
Importations by private trade are expected shortly. It is reported here that several hundred kilos of Bulgarian rose oil have been offered in this country directly, and that the balance will be sold in the United States by the Russians. There also is word that the Netherlands Government has a substantial quantity of cinnamon, in bark and leaf, to be sold in the United States. The Business Section of the Netherlands Embassy is one of the busiest spots in the Capital.

Behind the hike in the price from 10 cents to 15 cents per pound of whole black pepper, and from 11½ cents to 23 cents per pound for whole white pepper, by the OPA, at the request of the Secretary of Agriculture, is the desperate need for supplies to stave off almost complete exhaustion of present national inventories. There is less than three months' supply in the United States, and the Government is feverishly striving to buy 9,000,000 pounds in India before the monsoon breaks, late April or early May. If the negotiations do not succeed before the time necessary to get the pepper aboard ship, and out of the anticipated seasonably paralyzed shipping zone, the Government fears the nation may run out of pepper. Another 5,000,000 pounds have been allocated to us by the Combined Food Board, but a large part of this must be sent to South America. With supplies in the Pacific uncertain until 1950, it appears to Government people as though the Department of Agriculture must continue to buy pepper and sell it at a loss, to keep the nation supplied, for a considerable time.

NEW PRODUCTS AND PROCESSES

New Plastic Perfume Pedestal

One of the latest creations in crystal clear lucite designed by the Blue River Plastics Mfg. Corp., 475

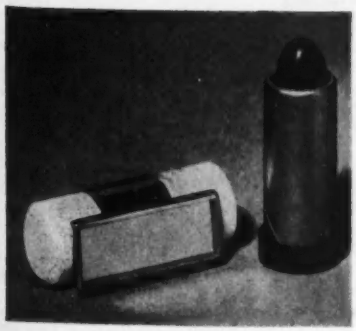


New Perfume Bottle Pedestal

Hudson Ave., Brooklyn, N. Y. to increase the sales appeal of perfumes is shown in the accompanying illustration. The pedestal displays the bottle to good advantage, and with its neat and distinctive appearance makes a welcome addition to the dressing table. It may be fabricated to suit any sized bottle. Full details about this pedestal or other pedestals and containers in lucite offered by the company will be sent on request.

New Make-up Mirror

C-Lip, a new make-up mirror to clip on lipsticks has been made available to jobbers and retailers by Bell Plastics Corp. The product consists of a brass-framed mirror, 5/8 in.x1½ in., that clips on the lipstick case. It is priced to retail at 39c.



Lipstick Clip-on Mirror

New All-purpose Stabilizer

S-233 is the formula number and commercial name of a new all-purpose stabilizer just marketed by American Food Laboratories. This new product, which is composed of vegetable and cellulose gums, edible salts and a dextrose stabilizer is said to be completely and quickly soluble in both hot and cold mixes.

Other advantages claimed for S-233, which has good viscosity and lusterous appearance, are faster freezing and easier whipping of the mix, no wheying off or sedimentation, no need of aging, and great latitude in methods of adding to the mix.

Imported Metal Containers

These English metal containers, decorated and embellished in re-

Imported Metal Containers

splendent color, are available in over 30 styles. They come in a real diversity of sizes and shapes, carefully finished and richly tooled. The insides and bottoms receive careful attention and are finished in either gold lacquer or enamel. After use, they serve as cookie jars, jewelry boxes, sewing kits, candy dishes, etc. They are offered for the candy, cosmetics, and men's toiletries trade by Imported Delicacies Co., Inc.

Book Reviews

THE SCIENCE AND ART OF PERFUMERY, Edward Sagarin, 268 pages, illustrated and indexed. McGraw-Hill Book Co., Inc., Price $3.00. Published in 1945.

Much of this book is written about the finished perfume chemist. He will find the discussion of accumulated literature in Appendex A to be most informative.

The great value of this book is for the executive, purchasing agent, generally curious, and especially salesmen. The latter should find himself armed with an arsenal of information after reading the book.

This book covers the history of perfumery, the raw materials of the perfumer and the methods of compounding used, the art of perfumery, the relationship of odor to flavor, the commercial development of the odor business, the psychology of perfumes and the role of perfumery in the life of man.

TECHNIQUE DES PRODUITS DE BEAUTE, R. M. Gattefosse and Dr. H. Jonquieres. 230 pages, 6¼ x 9½ in., paper covers. Girardot & Cie. 1946. Price $5.00.

This book entirely in French endeavors to bring up to date the latest developments in the science of cosmetology. One of the chapters reviews briefly the development of the industry including the notable progress made in the United States. The first part of the work consisting of eight chapters, covers aesthetic aspects of the subject; the second part with five chapters discusses beauty products; the third part with five chapters treats some raw materials including the glycols and materials employed in making emulsions, gels and colloids; the fourth part with seven chapters describes the making of beauty preparations such as lotions, oils, creams, rouges of all kinds, eyebrow pencils, lipsticks and masks; and the fifth part with five chapters discusses vitamins, hormones and other subjects of a timely nature.

P. A. BOMPARD
ANTIBES, A. M., FRANCE
Anciennes Maisons Jules Blanc et J. Mistral

Natural floral absolutes and concretes

V-day for perfumers. . . . Your worries of the past few trying years are over. . . . We are prepared to supply natural floral absolutes to meet your requirements. . . . Uniformly dependable quality guaranteed. Write for prices and full information.

ROSE JASMIN NEROLI ORANGE FLOWERS CASSIE

Sole representatives in North and South America

CENTFLOR MANUFACTURING CO.
6 VARICK STREET **NEW YORK 13, N. Y.**

AMONG OUR FRIENDS

▸Dr. Henri Coutinho, president of the Perfumers Manufacturing Corp. returned March 17 from a two weeks' business trip to Mexico. The trip both ways was made by airplane. In Mexico, Dr. Coutinho found business to be booming in all lines with new labor strikes breaking out almost daily in all lines of business.

Dr. Henri Coutinho

Thus there was a utility strike which made Mexico City dark at night for its duration; then there was a telephone strike and a strike against movies which showed pictures of movie actors against whom there was some real or fancied grievance. By comparison the United States is suffering far less from labor difficulties than is the sister republic south of the Rio Grande River.

▸Dr. J. Mitchel Fain, lately Colonel with the Army Air Forces, has rejoined the staff of Foster D. Snell, Inc., Brooklyn, N. Y., as account executive in charge of technical development for a group of manufacturers of chemical specialties. For the past four years, Col. Fain had been on a military leave of absence.

▸Lt. Commander John Carman has been appointed assistant to the president of Alfred D. McKelvy Co., New York, N. Y.

▸F. J. Stanton, president of Lynette Perfumes, Inc., and Lynmark, Ltd., New York, N. Y., has assumed the duties of sales and advertising manager. Oscar C. Olin, who has served as sales and advertising manager for the firm, will act in an advisory capacity until further notice.

▸Réne Forster, president of Réne Forster Co. Inc., New York, N. Y., flew to Paris on the "City of Lisbon" on March 16.

At present Mr. Forster is visiting with friends and relatives in Zurich, Switzerland. He will shortly be in Grasse, France, and in Italy to renew business connections which were temporarily suspended during the war.

He expects to return to the United States in late April or early May.

▸Dr. Leopold Ruzicka, the distinguished chemist and winner of the Nobel prize award in chemistry in 1939 who has been associated with Firmenich & Cie, Geneva, Switzerland since the end of World War I has been in the United States for the past few months conferring with American scientists. Andre Firmenich, president of Firmenich & Co., New York, N .Y., who is a partner and a director of the parent firm in

Andre Firmenich

Dr. L. Ruzicka

Switzerland is also in this country, having arrived by airplane March 17. In company with Rupert C. Watson, the enterprising manager of Firmenich & Co. who is also a partner of the New York firm, Mr. Firmenich is calling on business leaders in the industry. Mr. Firmenich is well known in the United States which he visited annually prior to World War II. He was, incidentally, the only executive of a foreign aromatic chemical house to visit the United States during the war when he made the trip by airplane. Both Dr. Ruzicka and Mr. Firmenich will be in the United States until the middle of May.

▸A. G. Roberts has been made Eastern District Manager, Syndicate Store Division of the Northam Warren Corp., Stamford, Conn.

Mr. Roberts joined the Northam Warren organization in 1938 and was a traveling representative in several territories until 1943, when he entered the armed forces and served as a paratroop instructor at the Parachute School at Fort Benning, Ga.

▸Gerard J. Danco, president of the Gerard J. Danco International Corp., New York, N. Y., has been elected president of the Morristownship Civic Association of Morristown, N. J., where he resides. The newly formed group hopes to promote interest in township affairs and assist in solving problems which the future growth of the community will present. For many years Mr. Danco has been active in civic affairs and has been chairman or a member of numerous committees to further the national as well as the community welfare such as war bond drives, red cross activities, etc.

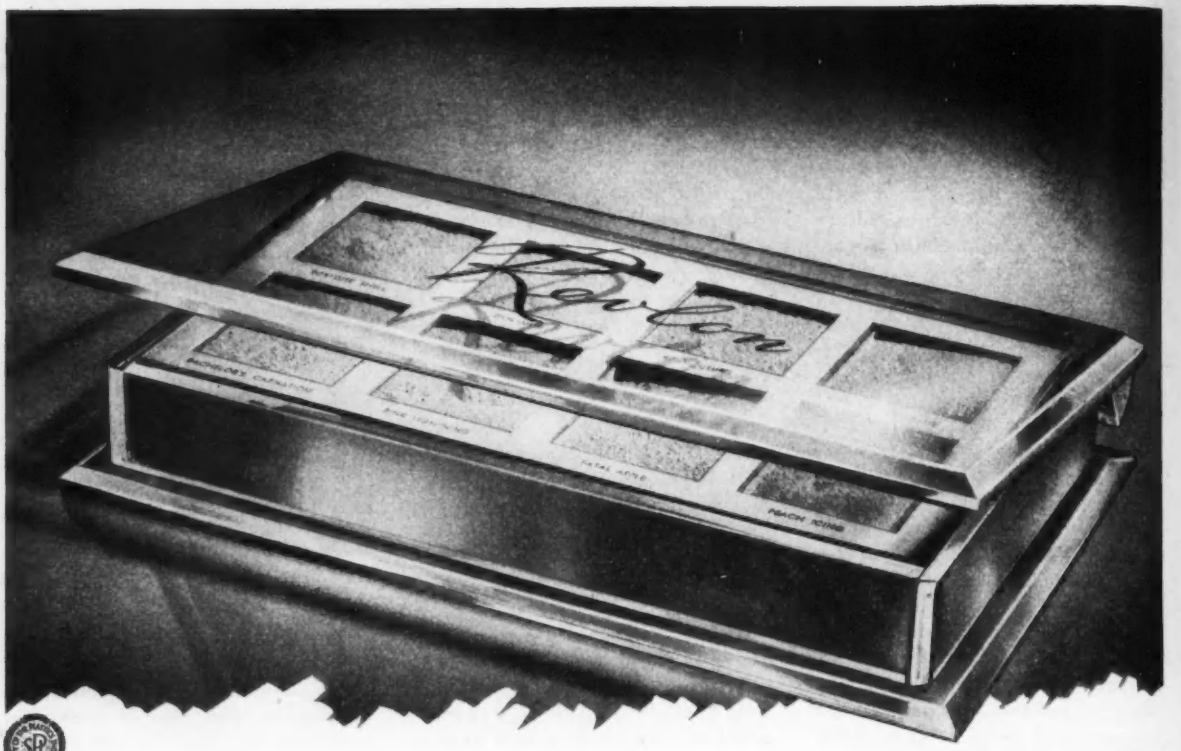
Gerard J. Danco

▸Richard D. Ewald has joined the sales staff of Evans Chemetics, Inc., New York, N. Y., in the chemicals division.

A graduate of Amherst, Mr. Ewald's earlier experience was with Killian Research Laboratories, New York, N. Y.; in the pharmaceuticals field with G. D. Searle, Chicago; and Westvaco Chlorine Products Co., New York.

▸Thomas W. Delehanty, associate chief of the division of Drugs and Chemicals division of World Trade Promotion of the Bureau of Foreign and Domestic Commerce will address the class in Marketing Drugs and Cosmetics conducted at the School of Commerce of New York University by Prof. Louis A. Bader and Sidney Picker on the evening of May 6.

▸H. D. Kinsey has been appointed works manager of the Carbide & Carbon Chemicals Corp., New York, N. Y. He was formerly general superintendent of the atomic energy plant which was operated by the company at Oak Ridge, Tenn., for the Government.



REVLON'S NEW COUNTER DISPLAY
a package designed and created exclusively for them by BLUE RIVER. Fabricated in sparkling plexiglass, with hinge cover, it contains 8 compartments for REVLON'S powder samplers. Name is printed in gold by silk screen process.

Revlon's choice . . .
A BLUE RIVER PACKAGE

In just three short months, the leaders in the cosmetics field have unleashed the powerful sales appeal of Blue River Packages. On the list of new clients using Blue River Plastic Packages are REVLON, CONSTANCE BENNETT, HENRY ROSENFELD—names that stand for individuality in the cosmetics field. Packages for many other leaders in this field are now on the designing board and in production.

A DYNAMIC COUNTER DISPLAY — A LOVELY BOUDOIR ACCESSORY

The sales appeal of BLUE RIVER packages goes much further than their individuality on the cosmetic counter. Because these packages are created both beautifully and practically, women will want to retain them and re-use them as exquisite boudoir accessories.

A CUSTOM MADE PACKAGE—*Exclusively Yours*

Designed by F. J. Nussbaum, BLUE RIVER PLASTIC PACKAGES are created exclusively for your package perfume bottle or line of cosmetics. Fabricated from Plexiglass, they are fashioned crystal clear or in any color of the rainbow.

BE EXCLUSIVE IN YOUR PACKAGING

Call or write today, without obligation, for a consultation with a BLUE RIVER representative. He will explain how you can get your exclusively made package into immediate production.

BLUE RIVER PLASTICS MANUFACTURING CORPORATION

F. J. NUSSBAUM, Pres. 473 HUDSON AVENUE BROOKLYN 1, NEW YORK NEvins 8-2197

FABRICATORS AND DESIGNERS OF PLASTIC ORIGINALS

▸ Perry N. Zang, toilet goods buyer for Gimbel Brothers, Inc., New York, N. Y., and its associated companies for the last three years resigned April 1 to become president and general manager of Amor Skin, Inc., New York, N. Y., cosmetic distributors. Mr. Zang brings to his new task over 20 years of experience in manufacturing, wholesaling and retailing. Prior to joining Gimbel Brothers he was with Thalhimers of Richmond, Va., for nine years as assistant divisional merchandise manager and buyer in charge of toilet goods, drugs and other merchandise. Before that he was with the Allied Department Stores as New York buyer. Then he was transferred to the Golden Rule Department Store of St. Paul, Minn. Previous to that he was with the Whelan Drug Co.-United Cigar Stores Co. in New York as buyer of fountain supplies and candy for the 1100 stores in the chain. This followed experience as manager in several of the chain's stores. Before that he was chemist and perfumer for Oakley & Co., New York, perfumers and soapmakers. While in Richmond he conducted courses in retail merchandising in the Professional Institute, a branch of the famous old College of William and Mary. He leaves Gimbel Brothers with an enviable record behind him both for the expansion and the efficiency of the departments of which he was the head.

Perry N. Zang

▸ C. D. McGrath, Jr., has joined the New England sales staff of Orbis Products Corp., New York, N. Y.

Mr. McGrath, who will make his headquarters at 89 Broad St., Boston, Mass., is a 1941 Boston College graduate. Recently released from active duty with the Navy, he saw service during the war as a Lieutenant Commander in the Naval Air Forces.

▸ Burton E. Donaghy has been appointed executive secretary of the National Beauty and Barber Manufacturers' Assn. He will make his headquarters at the association's office, 270 Park Ave., New York, N. Y.

Mr. Donaghy was recently discharged from the Army Air Forces where he spent a considerable part of his four years' service with the Special Events Division.

▸ John Dabney Penick has been admitted as a general partner of A. M. Kidder & Co., members of the New York Stock and other leading Exchanges. Mr. Penick is the son of S. Barksdale Penick of the well known drug firm of S. B. Penick & Co. During the war he had served as a major in the armed forces.

▸ Mr. and Mrs. Charles Revson announce the birth of a son, Charles H. Revson, Jr., March 1, at the New Rochelle Hospital, New Rochelle, N. Y. The boy weighed eight pounds one ounce at birth. This is the second son for the Revsons.

▸ Alden R. Ludlow, Jr., has been appointed manager of the alcohol and chemical sales division of U. S. Industrial Chemicals, Inc., New York, N. Y.

Alden R. Ludlow, Jr.

Mr. Ludlow rejoined U. S. I. in November after being released from the U. S. Army as an Air Corps Major. His military service abroad started in Casa Blanca and followed the entire Italian campaign to its conclusion at the Brenner Pass. His duties associated him with a fighter wing. His military service lasted 3½ years.

Mr. Ludlow joined U. S. I. upon graduation from Yale in 1934. Before leaving for the service, he was assistant to the vice-president in charge of sales.

▸ Bob Stanton has returned to A. C. Drury & Co., Inc., Chicago, Ill., after three years in service with the 13th Airborne Division. Mr. Stanton acts as a sales representative.

▸ Lyman E. Morris has been made representative for Aromatic Products, Inc., New York, N. Y., in the Atlanta, Ga., territory. He succeeds his mother, who has been representing the company since the death of her husband.

▸ John J. Howe has joined the Development Division of the Heyden Chemical Corp., New York, N. Y. He was recently released from the U. S. Naval Service where, with the rank of lieutenant, he was assistant to the Naval Inspector of Ordnance at the Navy's plant located at Charlotte, N. C.

John J. Howe

Before entering military service he was development chemist for the American Hard Rubber Co., at Butler, N. J. He was graduated in 1939 from St. Bonaventure College.

▸ William G. Werner, the Procter & Gamble Co., Cincinnati, Ohio, has been named chairman of the Government Relations Committee of the Association of National Advertisers.

▸ William M. Springer has been placed in charge of research by Bristol-Myers Co., New York, N. Y. At the same time he was made a vice-president.

Mr. Springer has been associated with the firm since 1916. In 1918 he became director of research at the Hillside, N. J., laboratories, and in 1941, assistant vice-president.

▸ Walter S. Nuckols has returned from active duty in the Navy, and is back with Swindell Brothers, Inc., Baltimore, Md., as manager of the New York sales office.

▸ Ben Friedman of Paris Cosmetics, Inc., and Furlager Manufacturing Co., New York, N. Y., manages to cover as much territory by air travel as possible. In a recent trip across the country and to Mexico from which he has just returned the time economy of air travel was amply demonstrated. After luncheon in New York at 12.30 p. m. he boarded a Constellation plane at 1.30 for Los Angeles arriving in Los Angeles late in the evening. The following day he flew to Mexico City and some days later to Vera Cruz. After conferring with numerous leaders in the industry in Mexico he returned by airplane to the United States with a calculated saving in traveling time of approximately one week.

Dr. Alexander Katz

FOUNDER OF FLORASYNTH LABORATORIES

Announces the Formation of Two Organizations and his resignation from Florasynth Laboratories

Dr. Alexander Katz & Co.—Essential Aromatics

4641-43 HOLLYWOOD BLVD., LOS ANGELES, CAL.
948 HOWARD ST., SAN FRANCISCO, CAL.

and

Essential Aromatics Corporation

304 EAST 23RD ST., NEW YORK 10, N. Y.

Manufacturers and importers of Essential Oils, Terpenless Oils, Vanilla Concentrates, Aromatic Chemicals and Colors for Food, Perfume and Cosmetic Industries.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

The Dr. Alexander Katz & Co.—Essential Aromatic's organization has taken over the plants of the Florasynth Laboratories Inc. on the Pacific Coast. The same personnel will continue to serve. At the same time, complete new manufacturing facilities in the East have been set up for the Essential Aromatics Corporation under the personal direction of Dr. Katz. Key personnel from the former company have joined Dr. Katz to operate the plant in the East.

The management of the entire Eastern territory will be under the direct supervision of Messrs. A. D. Mizzy and A. R. Mizzy.

Branch offices, located in key cities in the United States and Canada, will be manned by expert and experienced personnel ready and able to aid in the solution of all problems involving the use of perfumers', soap-makers' and flavoring manufacturers' raw materials.

More than 35 years of experience is at your service. Your inquiries are cordially invited.

Branch Offices: CHICAGO, DALLAS, NEW ORLEANS, SEATTLE, MONTREAL, TORONTO, VANCOUVER

▸ William Simeral has joined the Allen B. Wrisley Co., Chicago, Ill., as assistant sales manager. He has recently been discharged after four years service in the U. S. Army Air Corps.

▸ Lt. Edward P. Huisking has joined Conti Products Corp., New York, N. Y., as secretary. Lt. Huisking, recently released from the U. S. Marine Corps, takes the place of his brother who was killed in action in 1944.

▸ James C. Kennedy, Jr., recently resigned as president of Primrose House, Inc., New York, N. Y. He still acts as an advisory consultant for the firm.

▸ M. M. Rickets has been appointed general sales manager of William R. Warner & Co., New York, N. Y. He will also continue as vice-president and general sales manager of Standard Laboratories, Inc.

▸ Mrs. Jeanette E. McPheters was one of a party of sixteen who made a 40-day airplane tour of South American trade centers. Mrs. McPheters, owner of Mid-West Soap Co., Indianapolis, Ind., was looking for raw materials, and investigating market possibilities.

▸ Ruth Roburn has joined Jacqueline Cochran Cosmetics, New York, N. Y., as advertising and sales promotion manager. She will also be in charge of packaging, styling and publicity.

▸ Master Sergeant Philip F. Hymes, son of Jacob Hymes of Lewis Hymes Associates, New York, N. Y., has been discharged from the armed services where he served in the European and Pacific theatres for a total period of three years and has joined the Hymes organization as assistant to his father.

▸ Mrs. C. G. Meier, president of the Turex Trading Corp., Ltd., Zurich, Switzerland, arrived March 16, via Clipper for a stay of several months in the United States.

Mrs. Meier, who is active in the import-export field, is renewing contacts and making new ones in cosmetics, raw materials, containers, machinery, etc.

▸ Dr. Ivor Griffith, president of the Philadelphia College of Pharmacy and Science, has been named a member to the advisory health board of the Commonwealth of Pennsylvania by Governor Edward Martin.

Mrs. Elizabeth W. Johnson has been elected librarian of the Philadelphia College of Pharmacy and Science.

▸ Irma Ericsson, advertising manager of Shulton, Inc., New York, N. Y., left March 23 for the Bermuda Islands via Pan-American Airlines.

▸ G. D. Runnels, president of Dermetics, Inc., New York, N. Y., and Seattle, was elected new Honorary Chancellor of Florida Southern College at Lakeland, Fla., on March 15.

▸ Major Harry Price, who served in the office of Chief of Ordnance in Washington and in the Army Air Forces in Europe during the war has resumed the practice of patent and trade mark law in association with Dean, Fairbank & Hirsch, Graybar Building, New York, N. Y.

▸ Wilfred S. Cowan has been appointed chief engineer of the Emulsol Corp., Chicago, Ill.

▸ R. C. Evans has been placed in charge of the packaging materials sales department of Monsanto Chemical Co., St. Louis, Mo.

Mr. Evans has been assistant sales manager in charge of sheet and vinyl resin sales since April, 1944. He had previously served in charge of sales development for Vuepack in Detroit, Chicago and St. Louis from 1940 to 1941, and from 1941 to 1944 as branch manager of the Plastics Division, with headquarters in St. Louis.

▸ Paul Pearson has joined Dana Perfumes, Chicago, Ill., as assistant to Waldo V. Lossow, director of sales. Mr. Pearson was associated with Filene's in Boston as an executive in the toiletries department for eleven years. He was recently discharged after two and a half years in the U. S. Army.

▸ Malvern J. Hiler has been placed in charge of research and chemical development of the Stepan Chemical Co., Chicago, Ill. His work will involve the setting up and organizing of an organic chemicals research laboratory.

▸ Eric Eichwald of L'Aiglon Perfumes, Ltd., New York, N. Y., presented two papers before the meeting of the American Chemical Society in Atlantic City during the week of April 8. He also lectured on the chemistry of essential oils and perfumes in Jacksonville, Florida.

▸ August Sands has been appointed production manager of Affiliated Products, Inc., the cosmetic division of American Home Products Corp., New York, N. Y. Before that time he was purchasing agent of Richard Hudnut.

▸ DeWitt Thompson, formerly associated with the Mathieson Alkali Works, has joined the sales staff of Heyden Chemical Corp., New York, N. Y. He will cover Maryland, Pennsylvania and Western New York State.

Prior to joining Heyden Chemical Corp., he served forty-six months in the United States Navy. His rank was that of Commander.

Mr. Thompson is a member of The Chemists' Club and a member and past president of the Salesmen's Association of the American Chemical Industry.

▸ Walter B. Neuburg has returned to Coty, Inc., New York, N. Y., where he assumed his former position as advertising manager. Mr. Neuburg has been associated with the Coty organization for over twenty-five years.

During his service in the Army, he acted as food administrator for Naples and Rome, and later as officer-in-charge of the liaison division of the Allied Commission. He reached the rank of major.

▸ Ralph A. Hart has been appointed vice-president in charge of sales for Colgate-Palmolive-Peet, Ltd., Toronto, Ontario, Canada. Mr. Hart has been with the company since Jan. 1932, when he joined as a salesman in the Hamilton district. He was made district manager of Ontario in 1934, and shortly thereafter became managing director of the company's business in India.

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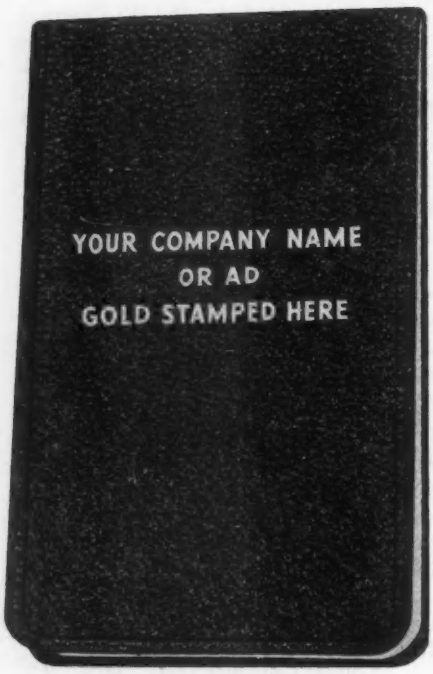
That's all it costs to *REMIND* your prospects and customers to *REMEMBER* you.

This handy refill pocket memo book slips easily into the vest pocket. Thin, light in weight, it takes up very little space. It's smartly styled in durable imitation leather, long-lasting, water-proof and dust-proof.

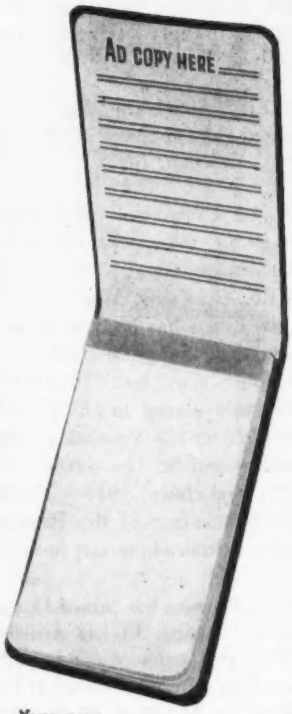
This practical book is a salesman's calling card, a useful souvenir for sales meetings and conventions.

*Prices in various quantities on request.

Refills are always available for just a few pennies.



Actual Size 4¼" x 2⅝". Imitation Leather Turned Edges. Has 50 Sheet White Sulphite Bond Refill Pad.



Your copy can be printed in ink on inside front and back cover pasters which are made of tan leatherette, lined solid throughout.

ADVERTISING CORPORATION of AMERICA

TWO PARK AVENUE, NEW YORK 16, N. Y.

NEWS and EVENTS

H. L. Brooks Resigns as President of Coty—Succeeded by Philip Cortney

Herman L. Brooks has resigned as president and director of Coty, Inc., New York, N. Y., and Coty International Corporation and from all subsidiary companies. Philip Cortney, former vice-chairman and treasurer of Coty International Corporation, has been elected president of that corporation and also president of Coty, Inc.

H. L. Brooks

Two new directors have been elected to vacancies on the board of Coty International Corp. They are Jean Despres, vice-president in charge of sales of Coty, Inc., and Fernand R. Tourtois, vice-president in charge of production of Coty, Inc. Jean Despres will continue to be responsible for the marketing, merchandising and sales policies of Coty, Inc.

Mr. Brooks started with Coty in 1915 as office boy. He then became stock boy, salesman and sales manager and in 1934 was advanced to general manager and treasurer. Just prior to that he had been since 1932 general sales manager for Houbigant Inc. In 1938 he became president of Coty. In 1940 he was presented with a gold watch by the executives of Coty, Inc. and a silver plaque by the employees of the company in celebration of his quarter of a century of service.

In addition to his many duties as president of Coty, Mr. Brooks served as president of the Toilet Goods Association ever since it was founded as an outgrowth of the old Associated Manufacturers of Toilet Articles in 1935. He is still president of the association. Mr. Brooks continues as vice-president of the executive committee of the New York Board of Trade. During the years of NRA he was chairman of the Code Authority. He has also been actively interested in numerous civic and charitable enterprises.

Mr. Brooks has announced that his business plans for the future have not yet reached concrete form.

Drive Afoot to Shift Cosmetic Tax

George H. Frates, Washington representative of the National Association of Retail Druggists, has launched a series of meetings with members of the Treasury Department and member of Congress in an effort to have the retailers' excise tax shifted to cosmetic manufacturers.

Treasury officials are reported to be cold to the suggestion, contending that this method of taxation presents more difficulties than the current system.

17th Annual Packaging Exposition

The 17th Annual Packaging Exposition was held April 2 to April 5, in Atlantic City, with 140 exhibitors and a registration of around 8000 visitors. Since there was practically no casual participation it could be expected that each visitor was genuinely interested in the displays, and such proved to be the case. The American Management Association held its annual meeting on shipping, packaging and packing concurrently.

The heavy emphasis was in the food field. As would be expected, decorative printing received a lot of attention. Transparent packaging was prominently displayed. Of unusual interest, from a merchandising point of view, was an electronic counter, which, when a beam was broken by the customer, presented a short commercial via recording extolling the virtues of a certain brand of merchandise. It is said to boost sales phenomenally.

Although the crowds were big, they were well pleased with what they saw. This was not purely a social gathering as lots of business apparently was being done.

TGA Tenth Annual Convention Plans

A tentative program has been announced for the Tenth Annual Convention of the Toilet Goods Association, which is to be held May 15, 16 and 17.

Current plans call for a session on raw materials and supplies for May 15. The Charles S. Welch Memorial Packaging Award will be presented at luncheon. Talks by members of the industry will be given during the afternoon.

On May 16, the morning will be devoted to talks on merchandising, advertising and promotion. A panel representing distribution will cover the subjects: Independent retail druggist, chain store executive, wholesale druggist and department store representative. At luncheon Mr. Livingston will demonstrate new plastics.

The afternoon will be devoted to a closed meeting for manufacturers.

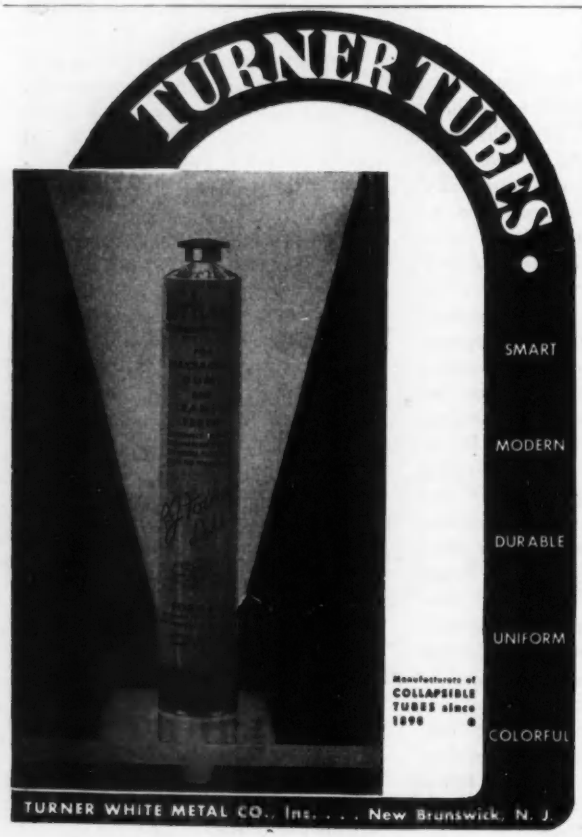
The scientific section will hold its meeting on May 17. Speakers will be: Nicholas T. Farinacci, George Firth, John H. Fraize, Earle R. Caley, Herman Goodman, Florence E. Wall, R. Thurber Guild, John A. Killian, M. Elizabeth Marsh, Erwin Di Cyan, A. Troy, A. C. Bell and John F. Mulvaney.

The convention committee urges that reservations be made far in advance. Tickets for the three-day meeting are $20.00. Attendance by individual days is May 15, $6.50; May 16, $8.50 and May 17, $6.50. Checks should be mailed to Karl Voss, Room 630, Chrysler Building, New York, N. Y.

New Marketing Book

The second installment of "Marketing Drugs and Cosmetics" by Louis Bader and Sidney Picker makes its appearance on page 113 of this issue. THE AMERICAN PERFUMER feels that its readers will find this to be a particularly timely and worthwhile work.

Illustration courtesy of Auto-Lite Battery Corp.



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LANONES are being successfully used in hand lotions, lipstick, shaving creams, emollient and special purpose creams, among other cosmetics, having an acid, alkaline or neutral pH.

Write for literature and samples

Price 35c in single drums, quantity price lower.

Manufactured by:

CONTINENTAL
CHEMICAL COMPANY
2640 Harding Ave., Detroit 14, Mich.

Jaipur Indian Talc Arrival

The first shipment of Jaipur Indian talc for cosmetic use since the stoppage of imports in 1941 is consigned to Whittaker, Clark & Daniels, Inc., New York, N. Y.

The 1000 ton cargo left Bombay, March 5, and arrived on the U. S. S. Wacosta.

ADACA Sponsors Cosmetic Research Laboratory

At the March meeting of the Allied Drug & Cosmetic Assn., it was decided that the group would sponsor the establishing of a laboratory for cosmetic research to be located in the new buildings of Wayne University at Detroit, Mich. The committee in charge of raising funds will be headed by Donald Melville.

Officers for 1946 were introduced at this meeting. They are: President, Maison G. deNavarre; Vice-president, Stewart Cowell; Secretary, A. S. Bedell and Treasurer, I. E. LaRue, Jr.

The next meeting of the association will be held April 24, at the Detroit-Leland Hotel.

Following a custom of many years standing, Magnus, Mabee & Reynard, Inc, New York, N. Y., played host at dinner to more than 400 guests representing drug wholesalers and manufacturing drug, sundry and pharmaceutical houses on March 9 in the grand ballroom of the Hotel Pennsylvania. The dinner was preceded by a cocktail party. The only speaker of the evening was New York's police commissioner, Arthur W. Wallander. Honor guests seated on the dais included W. Rutherford James, George F. Gardner, and Jim Roberts, H. P. Gilpin and Pearly Hayes, the three past presidents of the N.W.D.A

Magnus, Mabee & Reynard Establishes Fellowship

The Northeastern Wood Utilization Council has announced that it has established a fellowship in the Graduate Department of Chemical Engineering at Yale University sponsored by Magnus, Mabee & Reynard, Inc., New York, N. Y.

The fellowship is of two years duration, the recipient of which is Edwin Guernsey. The topic for investigation will be "Chlorophyll and Other Extractives From Green Plants and Leaves."

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Seeing your nationally advertised brand grow more and more popular each year is the highest reward we can receive for maintaining our exacting quality standard.

Your progress and profit measure our growth year by year. An increasing list of leading cosmetic purveyors testifies to the fact that it pays to produce only the best.

Quality samples for your unprejudiced comparison merely await a request per your letterhead.

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Lipstick • Eyeshadow • Rouge • Mascara • Powder, etc.

there is no finer
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JEAN
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in Grasse, France

importers of floral essences

and essential oils

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ADACIOM
Elects Officers

At the annual March meeting in St. Louis, the Associated Drug and Chemical Industries of Missouri elected the following officers for 1945-46: President, Charles E. Caspari; 1st vice-president, J. F. Harshner; 2nd vice-president, Glenn H. O'Neal; 3rd vice-president, Carl F. G. Meyer, Jr.; secretary, John A. Mueller and treasurer, J. Louis Lanz.

Members are: Franc A. Barada, Dr. J. S. Brewer, C. W. Godefroy, Paul A. Hein, Morton S. Johnson, Morton Meyer, Richard S. Reamer, W. B. Van Alstyne, Jr. and Fred A. Woods.

Group of Innis, Speiden & Co., sales force attending a recent conference at the company headquarters in New York, N. Y. Seated left to right: T. G. Flavelle, manager, gum and wax division; P. L. Frost, manager of sales; D. S. Cushman, assistant manager of sales; H. S. Cottrell, manager of the chemical division. Standing first row left to right: F. E. Strauch, J. O'Connell, W. J. Thorn, H. R. Wunker, R. D. Kane, L. W. Campbell, W. Wieners, J. E. Wickstead, H. T. Watterson, E. A. Smith and P. W. Hiller. Standing second row left to right: F. Grilli, H. F. Sheffield, W. H. Sheffield, Jr., G. A. White, C. K. Squires, W. L Baldwin and E. A. Schaef.

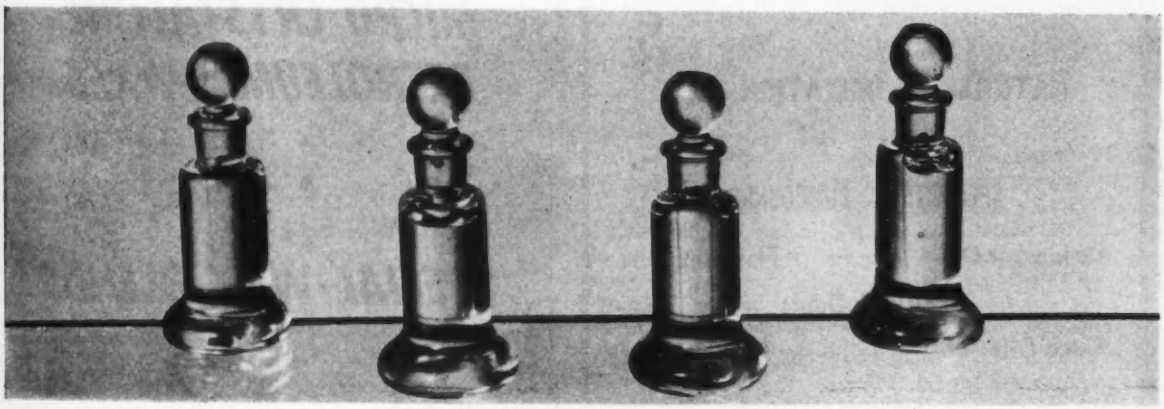
Coty Introduces "Muse" with Pageant

Coty, Inc., New York, N. Y., introduced "Muse," its first new perfume since the beginning of the war, on March 27, in the grand ballroom of the Waldorf-Astoria Hotel. The name "Muse" was chosen as a development on the original muses of Greek mythology.

Grover Whalen, who opened the show, stated that eight years of experimentation went into the creation of the new perfume, and that it was finally developed in Paris on Jan. 16, 1945. Vincent Roubert spoke in a two minute broadcast from Europe. Mr. Roubert is head of the Coty laboratory in Europe and had the responsibility for the largest share in the development of "Muse."

Costumes for the pageant of the muses came from the workshops of ten American designers. Leonora Corbett acted as narrator for the pageant as well as for the parade of modern fashions which followed.

The program was broadcast.



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In one- and two-dram capacities. Fashioned of finest 400 grit ground glass stoppers. These testers feature elongated stoppers.

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Anethol N.F.	Geraniol for Soap
Benzyl Benzoate F.F.C.	Ionone for Soap
Cinnamic Aldehyde	Linalool Extra
Citral C. P.	Methyl Ionone

NATURAL & IMITATION OILS

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Perfume Odors

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Elizabeth Arden Appeals Robinson-Patman Act Case

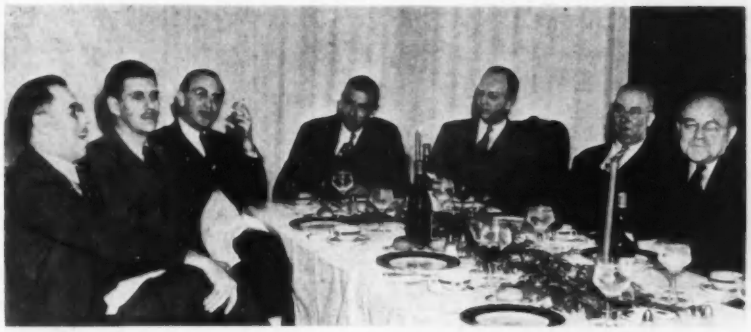
Elizabeth Arden, Inc., New York, N. Y., has filed a brief with the U. S. Circuit Court of Appeals for the 2nd Circuit, New York, N. Y., in which it is charged that the finding by the 8th Circuit Court of St. Louis was in error regarding its decision on the Gus Blass Co., case of Little Rock, Ark.

Spice Trade Meeting

The American Spice Trade Assn. will hold its annual meeting May 6, 7 and 8, at the Astor Hotel, New York, N. Y.

Blue River Plastics Mfg. Corp. Is New Name for Old Company

F. J. Nussbaum & Co., fabricators and designers of plastic containers and other products has been incorporated under the name of the Blue River Plastics Manufacturing Corp. Mr. and Mrs. Frank J. Nussbaum partners in the old company continue as officers of the new corporation and the headquarters at 475 Hudson Ave., Brooklyn 6, N. Y. remain the same.



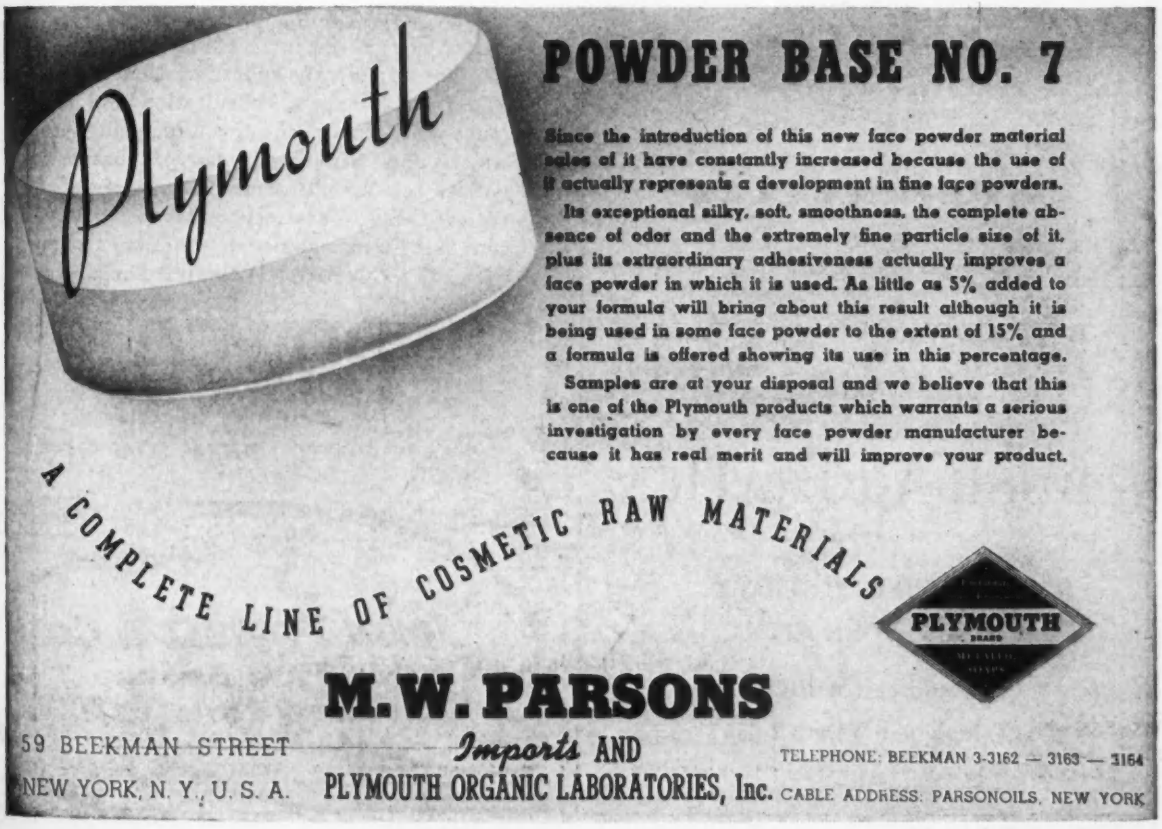
Dr. Orville E. May, Chief of the Bureau of Agricultural and Industrial Chemistry, U. S Department of Agriculture, left the Government on March 31 to become associated with the Coca-Cola Co. in chemical research and development after 23 years' service. He is succeeded by Dr. L. B. Howard The group above was taken at a dinner given in his honor by John W. Boyer. Reading counter-clockwise are: Dr. May, Lawrence Brown, Dr. J. Al Hall, John W. Boyer, Dr. H. T. Herrick, Dr. Robert E. Sebastian and Dr. L. B. Howard.

House of Gabler Increased Manufacturing Facilities Fourfold

The House of Gabler, Chambersburg, Pa., has enjoyed such a wholesome growth under the direction of Robert W. Gabler that it was compelled to acquire a new factory site affording four times as much space for manufacturing cosmetics as was available in its former location.

Perry Bros. Inc. Organized by Herbert and Ben Perry

Herbert E. Perry formerly with Givaudan-Delawanna Inc. and Aromatic Products Inc. and Ben R. Perry formerly with Aromatic Products Inc. have organized Perry Bros. Inc. to deal in aromatic materials with offices and plant at 220 Flushing Ave., Brooklyn 5, N. Y.


Plymouth
POWDER BASE NO. 7
Since the introduction of this new face powder material sales of it have constantly increased because the use of it actually represents a development in fine face powders.
Its exceptional silky, soft, smoothness, the complete absence of odor and the extremely fine particle size of it, plus its extraordinary adhesiveness actually improves a face powder in which it is used. As little as 5% added to your formula will bring about this result although it is being used in some face powder to the extent of 15%, and a formula is offered showing its use in this percentage.
Samples are at your disposal and we believe that this is one of the Plymouth products which warrants a serious investigation by every face powder manufacturer because it has real merit and will improve your product.
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Today, modern production methods make it possible to offer POWCO BRAND Pulverized Neutral Soap of the highest quality, standardized for air floated fineness, at an actual saving to you.

We are not merely sellers of Neutral Soap. We furnish expert consultation and assistance on formula and manufacturing problems. This has saved many thousands of dollars for our customers. Let us show you the safe way to cost economies and how *you* can safeguard against production troubles with POWCO BRAND Neutral Soap.

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REG. U.S. PAT. OFF.

POWDERED NEUTRAL SOAP

JOHN POWELL & CO.

One Park Avenue

New York 16, N. Y.

TGA Employs Labor Relations Counsel

The Executive Board of the Toilet Goods Assn., Inc., has approved the employment of Currie & Gherman, 270 Park Ave., New York, N. Y., as Labor and Industrial Relations advisers. The Chicago address of the firm is 1 North LaSalle St. Members are urged to use this new service.

Pinaud Opens New Showroom

Pinaud, Inc., has opened a new showroom and retail shop at La Maison Francaise, Rockefeller Plaza, New York, N. Y.

The showroom is in charge of Vivienne Carson, merchandise manager. Pinaud's general offices and factory are located at 220 East 21st St., New York, N. Y.

First National Plastic Exposition

More than 200 companies are participating in the first National Plastics Exposition to be held April 22 to 27, at the Grand Central Palace, New York, N. Y.

The Exposition is sponsored by the Society of the Plastics Industry, 295 Madison Ave., New York, N. Y., and will bring together the industry's leading manufacturers of raw materials and machinery, and companies that mold and fabricate plastic products and plastic parts.

Lanvin Agency Makes Appointments

Al Lieberfield has been appointed vice-president and general manager of E. L. Cournand Co., New York, N. Y., sole U. S. agent for Lanvin perfumes. Mr. Lieberfield was formerly manager of the Caron Corp.

J. Henry Healy will also be associated with the firm in promotion and merchandising. He will make his headquarters in Philadelphia.

Dental Research Grant by Colgate-Palmolive-Peet

The Colgate-Palmolive-Peet Co., Jersey City, N. J., has announced a grant of $120,000 to Northwestern University for dental research. Dr. Leonard S. Fosdick will be the director.

Givaudan-Delawanna Safety Record

For their "services to humanity in achieving a perfect safety record," the employees and management of Givaudan - Delawanna, Inc., Delawanna, N. J., have received a Certificate of Merit from the New Jersey State Department of Labor in a statewide Interplant Safety Contest.

G. T. S. Laboratories Address

The G. T. S. Laboratories are now permanently located at 370 Osborn St., Brooklyn 12, N. Y.

Toiletries and Drugs Disposal Speed-up

The War Assets Corporation received drugs and toiletries amounting to $20,000,000 for disposal at the end of February. This compared to merchandise valued at slightly over $10,000,000 which was received during January.

January figures showed a return of 35 per cent on the original cost for drugs, and approximately 67 per cent for toiletries.

René Forster Company

Fine Aromatic Chemicals

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Our Selection of the Month . . .

"WILD FLOWER"

● Here's the odor that is truly refreshing . . . the scent of colorful summer fields . . . flowers, sunshine, blue skies, birds, bees—yes, a distinctive yet universally-appealing odor.

Try "WILD FLOWER". This bouquet will supply that different yet universal appeal you seek for your cosmetics, soaps, perfumery, powders, sachet.

●

Your attention is also called to four other exquisite aromatic products . . .

PERSIAN
BOUQUET B
FLEUR D'ORIENT
CARNATION

● **Wire, 'phone or write . . .**

Try us for quality, price, delivery, service. Let us work with you on your aromatic problems.

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For Over 40 Years

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Standard
SPECIALTY & TUBE CO.
New Brighton, Pa.

Philadelphia Cosmetic Assn. Elects Officers

Harry Barr was elected president, and E. Patrick Meyers and Charles Stein were elected vice-president and secretary, respectively, at a recent meeting of the Philadelphia Cosmetic Assn.

Plans are under way for the annual cosmetic show to be held June 23 to 30 at the Benjamin Franklin Hotel, Philadelphia, Pa.

Revlon Introduces Bachelor's Carnation

A new nail enamel, lipstick and face powder, "Bachelor's Carnation," was introduced at a press party in the Cotillion Room, Hotel Pierre, on March 25, by Revlon Products Corp., New York, N. Y.

TGA Convention Committee Named

The convention committee of the Toilet Goods Assn. has been named by L. R. Root, chairman. It consists of: Karl Voss, A. C. Burgund, Charles Fischbeck, P. E. Haebler, W. E. Klass, M. Lemmermeyer, M. F. Martin, W. P. Murray and J. Blaine Walker.

The convention is to be held at the Waldorf-Astoria, New York, N. Y., May 15 to 17.

Price Control Lifted From Perfumes

Perfume, cologne, toilet water, cold wave solution, cosmetic stockings, cuticle remover, mascara, eye shadow, eye brow dye, eye brow pencils, eye lash dye, hair bleach (does not include peroxide), hair dye, hair lacquer, liquid wave sets, permanent wave cream, permanent wave lotion, powdered wave set and soap mitts have been lifted from price control. Supplementary Order No. 126 through Amendment No. 23, by the Office of Price Administration.

Universal Laboratories Streamlines Corporate Structure

Universal Laboratories, Long Island City, N. Y., has announced a program to streamline its corporate structure. The company will concentrate and expand its business in the cosmetic and toilet goods field with emphasis on mass production.

Trademark Orders May Be Reviewed

The Supreme Court of the United States has held that Federal Trade Commission orders regarding trademark cases are subject to review and modification by the courts. The decision, which was unanimous, was based on the "Alpacuna" case which has received wide attention.

Lynette in New Offices

Lynette Perfumes, Inc., New York, N. Y., has announced a move to new offices in the Madison Hotel, 15 East 58th St.

A Correction

In the February issue of THE AMERICAN PERFUMER a news item appeared which stated that Professor Curt P. Wimmer assisted Mr. Jean Marcarian in research on new products during the war. This was in error as Professor Wimmer is, and was at that time, associated with the College of Pharmacy, Columbia University, New York, N. Y.

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Amyl Salicylate

Benzaldehyde N. F.

Benzylidineacetone

Benzoic Acid U.S.P. & Tech.

Cinnamic Aldehyde N. F. VII

Cinnamic Alcohol

Heptaldehyde

Heptylidineacetone

Methyl Benzoate

YOUR INQUIRIES INVITED

VAN SCHAACK CHEMICAL WORKS, INC.

3430 Henderson St. *Chicago 18*

Frailey Industries Formed

P. L. Frailey has announced the formation of Frailey Industries, Inc., New York, N. Y., for the purpose of expanding markets and the distribution of popular-priced, trademarked consumer and ethical specialties.

Gallowhur Chemical Takes Over Puratized

The Gallowhur Chemical Corp., Reading, Vt., has taken over the assets and liabilities of Puratized, Inc., its wholly owned subsidiary. Puratized chemicals will continue to be manufactured by the Gallowhur Chemical Corp.

Vick Buys Sofskin Co.

The Vick Chemical Co., New York, N. Y., has purchased Sofskin Co., Findlay, Ohio. H. C. Glessner will continue as president of the company.

T.G.M.A. 18th Annual Convention

The Toilet Goods Manufacturers' Association has announced its 18th annual convention, to be held June 22 to 25, at Bigwin Inn, Lake of Bays, Canada.

Registration fees ($7.50) should be sent to W. Singer, Modern Containers Ltd., 95 Sterling Road, Toronto, Ont.

Obituary

John A. Corson

John A. Corson died at his home in Hewlett, L. I., on April 3. He had just retired as assistant secretary in charge of exports and imports of Dodge & Olcott, Inc., New York, N. Y.

Mr. Corson had joined the firm in 1900 as assistant to Mr. George M. Olcott and Mr. Francis E. Dodge. Throughout the years his knowledge of foreign places, customs and products has been of great value to Dodge & Olcott, and has earned him a host of friends among his associates.

He was tendered a farewell dinner by the employees of the company which he had served so long on Feb. 28.

Robert F. Joyce

Robert F. Joyce, 52, manager of the newly-formed Insecticide Sales Division of Orbis Products Corp., New York, N. Y., died suddenly at his home on April 3, of a heart attack.

Mr. Joyce, a pioneer in the development of derris resinate and rotenone insecticidal products, was an executive of Derris, Inc., for the past eight years before joining Orbis on April 1.

He leaves his widow and four sons, all of whom served in the armed forces during World War II.

Dr. William Dreyfus

Dr. William Dreyfus died March 13, at the age of 76. He had been chemical director of the West Disinfecting Co., Long Island City, N. Y., for forty-eight years.

He was a member of the American Public Health Assn., the American Chemical Society, the National Association of Insecticide and Disinfectant Manufacturers, the Society of Chemical Industry and the American Electro Chemical Society.

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. . . finer because they are manufactured in a most modern plant by skilled factory employees under the supervision of quality-minded production men according to formulas perfected by experienced chemists.

Private Label Toilet Preparations Exclusively

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B-W Lanolin the superior quality puts into your cream that which gives the skin that smooth soft velvety feeling.

B-W Lanolin will never cause your cream to darken, is best by test and contains over 15% free and combined Cholesterol.

No other base used in your cream, equals the merits of B-W Lanolin.

B-W HYDROPHIL (Absorption Base) Made in U.S.A.

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ESTABLISHED 1914

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CYCLONOL

CHARACTERISTIC ODOR *and* COOLING EFFECT OF MENTHOL

Cyclonol is chemically 1-methyl-3-dimethyl-cyclohexanol-(5). Graphically the structural formula is given in Fig. 1. It may be considered a lower homologue of symmetric or meta Menthol which has the structural formula shown in Fig. 2.

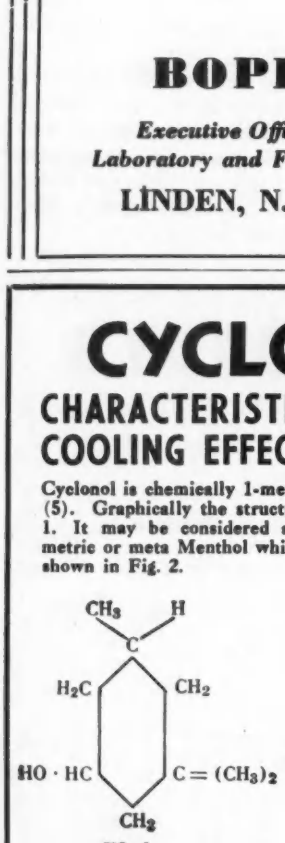

FIG. 1

FIG. 2

Cyclonol replaces Menthol satisfactorily in shaving creams and lotions, liniments, analgesic balms, ointments and similar preparations. It has also been accepted by the U. S. Treasury Department as a Denaturant for alcohol in place of Menthol U.S.P.

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MARKET REPORT

Aromatic Chemical Demand Exceeds Supply

THE long awaited revision of the Maximum Import Price regulation was a welcome development in the market for essential oils over the past month. The provisions effective March 25 permit importers and dealers to raise prices to coincide with steadily rising replacement costs over a period of months.

Prior to the revision, some houses, because of low ceilings, had been unable to pay the high level of replacement costs and were forced to discontinue handling certain articles thus aggrevating the tight supply position here.

LEMON OIL

All hopes of being able to acquire surplus stocks of government owned Sicilian lemon oil within a reasonable length of time faded when it was learned that distribution of the oil totaling 268,300 pounds would be on a priority basis with government agencies, state and local governments, veterans and non-profit institutions certified by the Federal Security Agency having first choice in acquiring the material.

Considerable forward buying was noted in oil lemongrass following the revision of import price regulations. Advices from Calcutta indicate that because of shortages of certain oils normally used in the manufacture of soaps, cosmetics, perfumes and other articles the demand for lemongrass has increased considerably. Upward trend of prices may result in the production of a larger crop than was noted over the past year when 400 long tons were produced from an estimated 25,000 acres. In 1944 the United States imported 1,028,518 pounds of which 813,321 pounds came from India and the remainder from smaller producers. In the first nine months of 1945 imports here amounted to 1,042,105 pounds.

Of considerable interest in the essential oil market was the arrival of Dalmation sage oil. For the first time in a long while some dealers were able to restore this article to their price lists at $6.25 to $6.50 per pound. A small shipment of patchouli oil, the first since the war also arrived at this port from the Far East.

CITRONELLA OIL

The future regarding Ceylon citronella oil remains highly uncertain pending the government's decision to appeal the case. Since the Customs Court handed down a broad decision against the government ruling that citronella was not a compound and could not be taxed as such it has remained a question in the trade whether an appeal would be made.

Demand for glycerin is running well ahead of the supply. Brokers in their search for odd parcels have tended to lessen the pressure of demand somewhat, but a shortage continues and trade factors in most instances have changed their ideas regarding a possible easing in the supply position by June. If it were not for ceilings, glycerin prices would undoubtedly soar to exceedingly high levels.

Foreign exchange developments have brought about an increase of at least 20 per cent in replacement costs of gum tragacanth. The spot market was rather slow in reflecting the higher costs because of a reasonably good supply here and a rather sluggish demand. A check on current spot prices will reveal, however, that the local market is considerably higher than it was in the preceding period under review and that the upward trend may continue. No shipments have come out of the Persian Gulf for over eight weeks. Gum arabic turned more active last month with the improvement in buying being accompanied by a gradual advance in prices. Day-to-day fluctuations were confined within narrow limits but the trend was definitely upward in keeping with higher import costs.

MENTHOL PRICES

Shipping prices for menthol have been gradually working higher in Brazil, but the spot market has been slow in reflecting the upward movement because of a narrow demand. Very little forward business has been noted, and unless some unforeseen development should take place, steadily mounting supplies at the primary market where production is well underway should eventually bring about greater selling pressure in Brazil. Although very few arrivals have been noted here in recent weeks there is a general feeling, that there is a reasonably good supply of menthol available in this market.

AROMATIC CHEMICALS TIGHT

Aromatic chemicals manufacturers were highly concerned over the walkout of workers in the soft coal industry. If the strike is continued for any length of time a further tightening in the supply of a number of important basic materials will undoubtedly be reflected in aromatic chemicals.

With but few exceptions, the demand for aromatics is running well in excess of the available supply. While a good portion of the activity is for the account of domestic consumers, there is also a tremendous export demand. Economic developments have restricted manufacturing operations in plants. Switzerland has been unable to keep pace with the mounting world requirements, and countries formerly dependent upon supplies from Germany are now looking to domestic manufacturers.

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ammonium thioglycolate

is manufactured by a special process to eliminate harmful impurities, and is supplied to leading manufacturers all over the world.

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PRICES IN THE NEW YORK MARKET

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Almond Bit, per lb.	3.50@	4.00
FFPA	4.75@	5.10
Sweet True	1.10@	1.30
Apricot Kernel	.48@	.50
Amber, rectified	2.25	Nom'l
Angelica Root	125.00@	150.00
Anise, U. S. P.	3.00@	3.50
Imitation	1.75@	2.10
Aspic (spike) Span.	2.85@	3.25
Avocado	1.05@	1.25
Bay	1.40@	1.75
Bergamot	8.25@	10.00
Artificial	3.35@	6.00
Birch, sweet	2.50@	5.00
Birchtar, crude	3.50	Nom'l
Birchtar, rectified	5.00	Nom'l
Bois de Rose	5.25@	6.00
Cade, U. S. P.	.90@	1.20
Cajeput	3.00	Nom'l
Calamus	22.00@	25.00
Camphor "white," dom.	.25@	.30
Cananga, native	10.20@	11.00
Rectified	12.25@	13.00
Caraway	8.25@	10.00
Cardamon	18.00@	20.00
Cassia, rectified, U. S. P.	8.50@	11.00
Imitation	3.75@	
Cedar leaf	1.10@	1.25
U. S. P.	2.50@	3.10
Cedar wood	1.00@	1.25
Celery	16.50@	18.00
Chamomile	150.00	Nom'l
Cinnamon bark oil	32.50@	35.00
Citronella, Ceylon	1.70@	1.85
Java	3.25	Nom'l
Cloves, Zanzibar	1.60@	1.75
Coriander	20.00@	25.00
Imitation	12.00@	14.00
Croton	4.25@	4.80
Cumin	9.00@	11.00
Dillseed	6.35@	7.00
Erigeron	2.25@	5.00
Eucalyptus	1.25@	1.35
Fennel, Sweet	4.00@	4.50
Geranium, Rose, Algerian	15.50@	17.00
Bourbon	16.00@	17.80
Turkish	7.50@	8.00
Ginger	13.00@	15.00
Guaiac (Wood)	3.10@	4.00
Hemlock	2.65@	3.34
Substitute	.55@	.60
Juniper Berry	8.25@	10.00
Juniper Wood, imitation	1.00@	1.25
Laurel	5.00	Nom'l
Lavandin	6.00@	6.85
Lavender, French	14.25@	16.00
Lemon, Calif.	3.25@	
Lemongrass	3.00@	3.75
Limes, distilled	6.25@	7.10
Expressed	13.75@	15.00
Linaloe	5.80@	6.10
Lovage	95.00	Nom'l
Marjoram	7.25@	7.50
Neroli, Bigarde P.	300.00@	375.00
Petale, extra	265.00@	300.00
Olibanum	4.75@	5.10
Opopanax	30.00@	38.00
Orange, bitter	3.50@	3.95
Brazilian	1.50@	1.65
Calif., exp.	1.80@	2.00
Orris Root, abs. (oz.)	135.00@	
Artificial	36.00@	40.00
Pennyroyal, Amer.	3.50@	3.80
European	3.65@	3.85
Peppermint, natural	6.40@	6.75
Redistilled	6.90@	7.40
Petitgrain	2.75@	3.10
Pimiento Berry	7.00@	7.60
Pinus Sylvestris	4.25@	5.00
Pumillonis	4.25@	4.75
Rose, Bulgaria (oz.)	32.00@	45.00
Synthetic, lb.	45.00@	55.00
Rosemary, Spanish	1.60@	1.75
Sage	2.50@	3.25
Sage, Clary	25.00@	30.00
Sandalwood, N. F.	9.52@	
Sassafras, natural	2.00@	2.15
Artificial	.65@	.80
Snake root	12.00	Nom'l
Spearmint	4.00@	4.25
Thyme, red	3.25@	3.40
White	3.55@	3.80
Valarian	40.00	Nom'l
Vetivert, Java	50.00	Nom'l
Bourbon	35.00@	40.00
Wintergreen	4.00@	8.25
Wormseed	5.00@	5.35
Ylang Ylang, Manila	38.00	Nom'l
Bourbon	20.00@	28.00

(Continued on page 105)

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PROMPT SHIPMENT – 450 & 100 lb. CONTAINERS
SAMPLE ON REQUEST
DOMESTIC **R. F. REVSON CO.** EXPORT
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(Continued from page 103)

TERPENELESS OILS

Bergamot	20.00@ 25.00
Grapefruit	65.00@
Lavender	28.00 Nom'l
Lemon	40.00@ 45.00
Lime, ex.	85.00@100.00
Distilled	60.00@ 67.00
Orange sweet	82.00@112.00
Peppermint	12.25@ 13.50
Petitgrain	3.85@ 4.25
Spearmint	5.00@ 6.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	1.90@ 2.75
Acetaphenone	1.65@ 1.80
Alcohol C 8	4.25@
C 9	14.00 Nom'l
C 10	4.25@
C 11	11.50 Nom'l
C 12	4.25@
Aldehyde C 8	15.00@ 20.00
C 9	27.00@ 30.00
C 10	15.00@ 18.00
C 11	22.00 Nom'l
C 12	25.00@ 30.00
C 14 (so called)	8.00@ 9.50
C 16 (so called)	7.65@ 8.25
Amyl Acetate	.55@ .75
Amyl Butyrate	.90@ 1.10
Amyl Cinnamate	4.50@ 5.80
Amyl Cinnamate Aldehyde	2.35@ 2.80
Amyl Formate	1.00@ 1.50
Amyl Phenyl Acetate	3.65@ 4.00
Amyl Salicylate	.80@ 1.00
Amyl Valerate	2.10@ 2.75
Anethol	2.65@ 3.25
Anisic Aldehyde	3.10@ 3.75
Benzophenone	1.15@ 1.30
Benzyl Acetate	.55@ .65
Benzyl Alcohol	.75@ 1.00
Benzyl Benzoate	1.05 @1.20
Benzyl Butyrate	2.10@ 2.25
Benzyl Cinnamate	5.15@ 5.50
Benzyl Formate	2.50@ 3.75
Benzyl-Iso-eugenol	10.25 Nom'l
Benzylidenacetone	2.10@ 3.05
Borneol	1.80 Nom'l
Bornyl Acetate	2.25 Nom'l
Bromstyrol	6.00@ 6.50
Butyl Acetate	.19½@ .19¾
Cinnamic Alcohol	3.00@ 3.60
Cinnamic Aldehyde	1.10@ 1.65
Cinnamyl Acetate	8.75@ 10.00
Cinnamyl Butyrate	12.00@ 14.00
Cinnamyl Formate	10.00@ 13.00
Citral, C. P.	6.50@ 6.75
Citronellol	6.50 Nom'l
Citronellyl Acetate	8.60@ 9.20
Coumarin	3.00@ 3.50
Cuminic Aldehyde	8.00@ 11.25
Diethylphthalate	.24@ .30
Dimethyl Anthranilate	4.55@ 5.00
Ethyl Acetate	.25@ .35
Ethyl Anthranilate	5.50@ 7.00
Ethyl Benzoate	.75@ 1.00
Ethyl Butyrate	.75@ .90
Ethyl Cinnamate	3.60@ 3.80
Ethyl Formate	.65@ .80
Ethyl Propionate	.80 Nom'l
Ethyl Salicylate	.90@ 1.00
Ethyl Vanillin	5.25@ 6.00
Eucalyptol	2.65@ 2.85
Eugenol	2.85@ 3.35
Geraniol, dom.	6.25 Nom'l
Geranyl Acetate	3.60 Nom'l
Geranyl Butyrate	8.50 Nom'l
Geranyl Formate	13.40 Nom'l
Heliotropin, dom.	3.75@ 4.00
Hydrotropic Aldehyde	7.60@ 8.10
Hydroxycitronellal	8.50 Nom'l
Indol, C. P.	20.00@ 23.00
Iso-borneol	1.10 Nom'l
Iso-butyl Acetate	1.25@ 2.00
Iso-butyl Benzoate	1.50@ 2.60
Iso-butyl Salicylate	2.70@ 3.00
Iso-eugenol	3.85@ 4.00
Iso-safrol	3.00 Nom'l
Linalool	7.50@ 8.00
Linalyl Acetate 90%	8.00@ 8.50
Linalyl Anthranilate	15.00@
Linalyl Benzoate	10.50@
Linalyl Formate	9.25@ 12.00
Menthol, Brazilian	5.00@ 5.50
Methyl Acetophenone	1.80 Nom'l
Methyl Anthranilate	2.25@ 2.40
Methyl Cellulose, f.o.b. shipping point	.60 Nom'l
Methyl Cinnamate	3.25@ 3.80
Methyl Eugenol	3.50@ 6.75
Methyl Heptenone	3.50 Nom'l
Methyl Heptine Carbonate	45.00@ 60.00
Methyl Iso-eugenol	5.85@ 10.00
Methyl Octine Carbonate	24.00@ 30.00
Methyl Paracresol	2.50 Nom'l
Methyl Phenylacetate	3.80@ 4.00
Methyl Salicylate	.37@ .38
Musk Ambrette	4.25@ 4.50
Ketone	4.35@ 4.80
Xylene	1.65@ 2.50
Neroline (ethyl ether)	2.00@ 3.15
Paracresol Acetate	2.55@ 3.00
Paracresol Methyl Ether	2.60@ 2.85
Paracresol Phenyl-acetate	6.50@ 8.50
Phenylacetaldehyde 50%	3.00 Nom'l
100%	5.00 Nom'l
Phenylacetic Acid	2.10@ 3.00
Phenylethyl Acetate	2.70 Nom'l
Phenylethyl Alcohol	2.80@ 3.00
Phenylethyl Anthranilate	16.00@

(Continued on page 107)

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Phenyl Valerianate	16.00@	17.50
Phenylpropyl Acetate	10.00	Nom'l
Santalyl Acetate	20.00@	22.50
Scatol C. P. (oz.)	5.35@	6.00
Styrolyl Acetate	2.50@	3.00
Vanillin (clove oil)	2.60	Nom'l
(guaiacol)	2.35	Nom'l
Lignin	2.35	Nom'l
Vetivert Acetate	25.00	Nom'l
Violet Ketone Alpha	18.00	Nom'l
Beta	15.00	Nom'l
Methyl	6.50	Nom'l
Yara Yara (methyl ester)	2.00@	3.10

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Tonka Beans Surinam	.80@	.95
Angostura	1.50@	1.85
Vanilla Beans		
Mexican, whole	11.00@	
Mexican, cut	10.00@	
Bourbon	7.75@	8.50
Tahati	3.35@	3.75

SUNDRIES AND DRUGS

Acetone	.07@	.07½
Almond meal	.25@	.35
Ambergris, ounce	12.00@	16.00
Balsam, Copaiba	1.35@	1.50
Peru	1.25@	1.30
Beeswax bleached, pure U. S. P.	.62@	.65
Yellow, refined	.56@	.58
Bismuth, subnitrate	1.20@	1.22
Borax, crystals, carlot ton	55.50@	58.00
Boric Acid, U. S. P., cwt.	6.95@	7.55
Calamine	.18@	.20
Calcium, phosphate	.08@	.08¾
Phosphate, tri-basic	.09@	.10
Camphor, domestic	.69@	.84
Castoreum, Canada	7.80@	10.00
Cetyl, Alcohol	1.75@	1.80
Chalk, precip.	.03½@	.06½
Cherry Laurel Water, jug, gal.	2.60@	3.10
Citric Acid	.21@	.24
Civet, ounce	18.00@	25.00
Clay, colloidal	.07@	.15
Cocoa, Butter, lump	.25½@	.27
Cyclohexanol (Hexalin)	.30@	.50
Fuller's Earth, ton	15.00@	33.00
Glycerin, C. P., drums	.18¼@	.18¾
Gum Arabic, white	.29@	.32
Amber	.13½@	.14
Powdered, U.S.P.	.18@	.21
Gum Benzoin, Siam	5.00	Nom'l
Sumatra	1.40	Nom'l
Gum Galbanum	1.10@	1.35
Gum Myrrh	.50@	.55
Henna, pwd.	.28@	.30
Kaolin	.05@	.07
Labdanum	5.00@	7.00
Lanolin, hydrous	.30@	.34
Anhydrous	.31@	.35
Magnesium, carbonate	.09@	.10¾
Stearate	.24@	.27
Musk, ounce	45.00@	50.00
Olibanum, tears	.21@	.35
Siftings	.12½@	.14
Orange Flower Water, gal.	1.75@	2.25
Orris Root, Italian	.65@	.70
Paraffin	.06@	.09
Peroxide	1.10@	1.75
Petrolatum, white	.06¼@	.08½
Quince Seed	1.50@	1.75
Rice Starch	.10	Nom'l
Rose Leaves, red	3.45@	4.00
Rose Water, gal.	6.50@	8.00
Rosin, M. per cwt.	7.49@	
Salicylic Acid	.35@	.40
Saponin	2.00@	2.50
Silicate, 40°, drums, works, 100 pounds	.80@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb. 58% light, 100 pounds	1.53@	2.35
Hydroxide, 76% solid, 100 pounds	2.60@	3.75
Spermaceti	.26@	.27
Stearate Zinc	.29@	.30
Styrax	1.10@	1.35
Tartaric Acid	.62½@	.63½
Tragacanth, No. 1	3.75@	4.00
Triethanolamine	.19½@	.20½
Violet Flowers	2.00	Nom'l
Zinc Oxide, U. S. P. bbls.	.40½	Nom'l

OILS AND FATS

Castor No. 1, tanks	.13@	
Cocoanut, Manila Grade, c.i.f., tanks	.0835@	
Corn, crude, Midwest, mill, tanks	.12¾@	
Corn Oil, distilled, drums	.16¼@	.16½
Cotton, crude, Southeast, tanks	.12¾@	
Grease, white	.08⅞@	
Lard	.1522½@	
Lard Oil, common, No. 1 bbls.	.14@	
Palm Niger, drums	.0865	
Peanut, blchd., tanks	.1501@	
Red Oil, distilled, drums	.13¼@	.14¼
Stearic Acid Triple Pressed	.18⅝@	.19⅝
Double Pressed	.15⅞@	.16⅜
Tallow, acidless, barrels	.14¼@	
Tallow, N. Y. C., extra	.08⅝@	
Whale oil, refined	.1232	Nom'l

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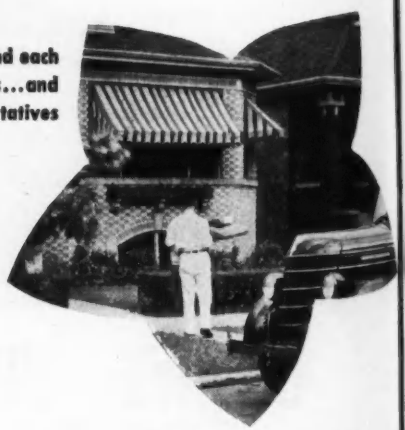

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Marketing Drugs and Cosmetics

by LOUIS BADER, Ph.D.
Associate Professor of Marketing, New York University

and

SIDNEY PICKER, M.C.S.
National Merchandisers

This is the second installment. The third will appear in the May issue.

LIFE OF THE PRODUCT: In selecting the product, the manufacturer should consider the life of his product in the hands of the ultimate consumer. If a product has a life of one month in the hands of the user, and has a retail value of $1 it might be assumed that the average consumption value of the product would be $12 per year per customer gained. Compare this with the selection of a product that has, let us say, an average life of six months, and may be sold for $3 or $4. The total consumption value of the first product is considerably greater than that of the second, and may therefore become a better product to make and sell. Some products may be what are commonly known as one-use products. A cold remedy may cure quickly; on the other hand, a shaving brush may have an exceptionally long life. A box of baby powder may last two weeks, but as the baby grows, new users must be found every six to nine months as the rate of consumption decreases with the increasing age of the beneficiary.

CONSUMER REACTION TO PRICE OF THE PRODUCT: Important also in the selection of the product to be sold is the price. A product can hardly be marketed successfully that is either too costly for the benefits to be derived from it, or whose market is limited to small numbers because of the low purchasing power of the people in general. Between 1932 and 1936 nearly one third of our population could not pay for medical care at the then prevailing prices. While this condition does not exist now, it could conceivably happen again, although no one can faithfully forecast future income. In either case the market may be so small and the cost to reach the market so high that profits cannot be earned even though the margin is wide. This indicates that among the many factors that cause the consumer to prefer one article rather than another, the element of price is an important one, and careful study of price tendencies should be made before the product is decided upon.

SPECIAL FEATURES OF PRODUCT: In order to obtain as much of the consumer preference as possible, all unusual features and advantages possessed by a product should be analyzed and put before the consumer. These special features may be prompt and efficacious results from the remedy, desirable social or personal benefits, improvement in personality or personal appearance, special ingredients or processes of manufacture and attractiveness or effectiveness of package. Because of intelligent advertising, improved education, the domestic science trend in schools, home economy discussions, activities of women's clubs, and other helps, consumers have become more discriminating in their selection of personal products and are likely to become even more so. They have become price conscious, making necessary greater and more intelligent efforts on the part of the manufacturer and distributor to gain their favor. Consumers are not as gullible as they were once thought to be and a vast movement is under way to educate them to become more product-wise than ever before.[7]

CONSUMER CONFIDENCE AND GUARANTEES: The gaining of consumer confidence and acceptance is essential in successful drug marketing. If the consumer, for any reason, whether true or fancied, loses confidence in either a manufacturer or his product, it is an almost insurmountable obstacle to further sales. This is why we find various manufacturers not only guaranteeing the products they manufacture, but also trying to get the approval of individual scientists and the medical and dental associations. The acceptance of the product by such institutions as the American Dental Association, the American Medical Association, *Good Housekeeping Magazine*, or child welfare institutes helps, although it is not always essential. However, where this acceptance is possible, it is wise to attempt to obtain it.

PATENT AND TRADEMARKS: No drug product is patentable, though a process may be. The value of a patent is obvious. It gives the originator of any product the exclusive use of his discovery for at least seventeen years. The first trade marked proprietary remedies were erroneously called patent medicines. In reality the products are merely trademarked. There were a few products in the old days that were patentable. They represented

exclusive formulas but as a result of careless observation of the law, they lost their rights to the coined name.

Care should be taken that the brand name of the "patented" product does not become a generic term so that its value as a trade name is lost. Aspirin, the trade mark name given to the patented monacidester of salycilic acid, is no longer the exclusive product of the Bayer Company. Any firm may manufacture monacidester of salycilic acid and call it aspirin, the original patented designation of the product. The same is true of milk of magnesia. The latter was originally a patented product and when the patent expired the originator lost the name he had given his product. Keep the name of the product technical and the brand distinctive.

The use of brand names and trademarks is essential since they help protect the owner from loss of sales because of substitution of another product. A trademark should be marked by originality in design; it should be easy to recognize; and, when possible, it should indicate in some way the use of the product. A brand name may be a coined word. It should be easy to pronounce and spell and indicative of the product or its uses. Although the courts are keen in guarding property rights in brand names and trademarks, these should be developed along lines not easily infringed upon, and thus legal difficulties would be avoided. Marks used to identify products can be registered with the proper office of the federal government in Washington. A trademark is registered with the Patent Office, Washington, D. C., whereas a label is copyrighted by the same office. Various regulations must, however, be observed and for this purpose a competent patent attorney should be consulted.[8] In the cosmetic field most trademarks are names of persons or flowers, or are coined names. The use of a person's name, however, is not always desirable and very frequently there is loss of value with the death of the person whose name is being used. A tendency has developed to use or imply historical names in the medicinal field, names of doctors or the originators of the products, who were professional men, have been the vogue. Of late this tendency has been changed to coined and original words, of more technical or scientific type, like mercurochrome and viosterol.

PUBLIC FAMILIARITY WITH THE TYPE OF PRODUCT AND ITS PURPOSES: The purpose of some products are quite obvious, simple label explanations may suffice. On the other hand, some products require either personal demonstration or considerable education in their use. A product may or may not be efficacious. It may or may not be dangerous to the user. Whether a product falls into the classification ornamental, medicinal, or beautifying, its uses must be clear, understandable and unquestionable. The Federal Food, Drug and Cosmetic Act of 1938 stipulates the kind of labeling drug and cosmetic products must have, in order that the public may be protected as much as possible. Specific and detailed requirements are treated in Chapter 20.

THE PROPER CLASSIFICATION OF PRODUCTS: "When is a medicine not a medicine?" becomes more than a facetious comment when the following reports are considered:

According to a statement by Attorney General L. A. Foot of Montana, any dealer in general merchandise in that state may handle patent medicines and toilet articles in the manufacturer's original packages, if plainly labeled, without securing a druggist's license. It is interesting to note that rulings in four other states have recently been announced pertaining to the sale of proprietary medicines in other than drug stores and without druggist licenses. One of the most recent of these was decided in California where the seizure of hydrogen peroxide in a Woolworth store was upheld and the decision rendered that peroxide could be sold only by a licensed druggist. This opens up a wide field of speculation as to what is and what is not to be considered in a medicine.

In Oregon, Attorney General Van Winkle has held that the use of the words "drug sundries" on the outside of a general store is a violation of the State Pharmacy Law in cases where no registered pharmacist is in charge of the store although the law does not prohibit the sale of patent or proprietary medicines by general stores.

In Ohio, the Columbus Municipal Court has ruled that aspirin is a "household remedy" and is, therefore, exempt from the Ohio law requiring that drugs may be sold only by registered pharmacists.

In Minnesota, the State Supreme Court has ruled that Milk of Magnesia in the original package of the manufacturer which is prepared in accordance with the formula contained in the United States Pharmacopoeia is a "medicine" within the meaning of the Minnesota Pharmacy Act, and, therefore, may not be sold at a place of business other than one in which a registered pharmacist is employed or is in active charge.

In the State of New York, the Attorney General in 1944, ruled that vitamin products may be sold only in drug stores and thus prohibited their sale in grocery and other outlets. There have been many objections to the ruling and there will probably be court action.

The marketing of a product, therefore, has, within certain cities, legal limitations that should enter into the consideration of the product to be manufactured.

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[7] See in this connection *"Consumer Movements and Business"* by Bader and Wernette, *Journal of Marketing*, July, 1938, and reports of The Institute for Consumer Education, Columbia, Mo.

[8] For an excellent short discussion of brand names and trade marks see Otto Kleppner, *Advertising Procedure*, Chapter VII.

CHAPTER 3

Competition and Merchandising Practices

This chapter points out the kinds of competition a producer will find himself faced with in drug and cosmetic distribution. Competition takes several forms, one being as nearly always, differences in price, not only price to consumers but also price to dealers, who are interested in large mark ups. Another form of competition is through the variety of dissimilar products offered, each with persuasive advertising or sales talk claiming the same result. There is also the competition of prestige—the large, heavy-advertising firm with what have become well-known brands. Nevertheless the field is wide open because people are what they are with biases, prejudices, customs, and habits which may be seized upon by a wide-awake, capable individual and turned to account.

COMPETITION is an important consideration in any attempt to market either a drug or toiletry product. This competition resolves itself into four classes:

1. Competition in price to the consumer
2. Competition in price to the dealer
3. Competition of dissimilar products
4. Competition of prestige products

COMPETITION IN CONSUMER PRICE

CONSUMER PRICE RANGES: If a manufacturer wants to market a face powder and finds that most face powders are selling at an average retail price of $1.00, he would find it considerably more difficult to sell a higher-priced face powder than to enter the $1.00 market. There is a market for a $2.00 or even higher-priced powder, but that market and his share of it would probably be smaller than for the $1.00 powder. That there are more competitors in the $1.00 field might suggest to a manufacturer that he go into a different priced field, but because of the tremendous sales pressure developed for the $1.00 product, most of the demand is concentrated at that price.

In selecting the price range, it is necessary for the manufacturer to decide the extent to which price is a determining factor when consumers make their purchases. If price is relatively unimportant to the sale of the product, then a price on the product that puts it in the range of the majority of similar goods will give the product greater marketability than it would attain if the retail price is set at a figure outside the current range. Less resistance would be encountered and less advertising would be necessary. However, if the product is priced out of the price range of most products of similar nature, then such a retail price is likely to become an obstacle in the marketing of the product. If the price is too high, the potential market will be reduced. If it is too low, then the public may be doubtful of the quality and, that doubt will, of course, hurt the sale. It is assumed, in this connection, that the product compares favorably with competing products in purpose, appearance, and quality; that it has as much merit as any competitive product.

Illustrative of the wide variations in the prices paid and the price ranges of different products, we list below a few items as given in the 14th Survey of Beauty of Modern Magazines (1945):

Price Ranges of Selected Cosmetic Products
(In percentages of those answering questionnaire)

Product	10¢ and under	11-25¢	26-50¢	51-75¢	76-$1.00	Over $1.00
Face powder	18.1	10.3	12.6	4.7	48.6	15.7
Lipstick	11.5	6.6	13.1	9.8	48.4	10.6
Rouge (cake)	22.7	9.4	31.7	15.1	18.7	2.4
Creams	7.5	15.7	27.3	14.2	23.0	12.3
Hand lotion	10.8	16.5	38.8	10.2	20.5	3.2
Bath salts	3.8	6.5	17.3	17.3	40.4	14.7
Tooth paste	6.7	27.1	60.7	4.6	0.8	0.1
Perfume	4.7	3.6	2.9	7.7	23.6	57.5
Mascara	76.2	7.3	2.3	4.5	8.7	1.0
Nail polish	43.6	5.7	5.4	31.7	11.7	1.9

Not only the price unit purchases are of special interest to manufacturers, but also the places of purchase. If purchases are largely concentrated in 10¢ sizes different merchandising methods are required from those used if the bulk of the business is likely to come from drug or department stores.

From the table "Where They Buy" (page 118 March issue) from the Modern Magazines' 1945 Survey of Beauty it can be seen that whereas the druggist leads in the sale of eye wash with 89.5 per cent of the total, in nail polish he does only 33.8 per cent of the total. Whereas the 5¢ and 10¢ store does 40.2 per cent of the nail polish total, it does only 10.0 per cent of the perfume and 22.6 per cent of the tooth paste total. The high percentages of purchases of soap in miscellaneous outlets are probably due to the large sales of these products in grocery outlets. The current figures are interesting but comparisons of these surveys over a period of years will indicate rising or falling trends in different groups as to place of purchase and static conditions in others. The changes in the places of purchase will also indicate changes in buying habits based on price.

Previously, we have mentioned how the leaders in many products have found their sales in the syndicate field growing in proportion to their total. Now we find that 29.4 per cent of all toilet goods business is in the 10¢ outlets, a steady rise in the past few years. The reasons for this

are many, but there may be two major ones. The first is the wider use of many toiletries by women. The chart on page 118 March issue shows how the younger age groups dominate the purchasing power. The young woman under 30 must have anywhere from ten to fifteen toilet articles in her boudoir, to keep up with modern demands. Purchasing power does not permit the expenditure of fifty cents to one dollar or more on each of this number of products. Furthermore, the lower age groups include many high school girls, whose allowances are generally limited but whose per capita consumption in units and diversity of types of cosmetics purchased is the largest of any age group. It is estimated that there are over 1,250,000 new cosmetic users each year from the youngsters, and their starting age has dropped steadily. The manufacturers have made available smaller sizes of equal quality, and hence the youngsters flock to the ten-cent counters to satisfy their needs.

The second reason for the high percentage of sales of toilet goods in the syndicate stores is the better display and availability of stocks in those stores. Many department stores resent the addition of new items. They have demanded hidden demonstrators, advertising allowances or cooperation, and guaranteed sales; and they fight strenuously any commitment in merchandise. Furthermore, where departments are now manned entirely by girls paid by manufacturers, it is almost impossible to get free sales and reasonably fair display. The result of the foregoing is that many new toilet items are being introduced in 10¢ sizes only and the department stores do not have the newer items on hand. Furthermore, since department stores generally do not care to promote items that sell for less than one dollar, manufacturers who want to hit the market hard do so in the outlets that will give them cooperation.

Most successful new products in the toilet goods field have made tremendous strides through the syndicate stores. We can mention Drene Shampoo, Blue Waltz Perfume, Flameglo Lipstick, Duragloss Nail Polish and many other products. As for the druggists, outside of those products that are on the semi-medicinal side like mouth washes or tooth pastes, his assortments are meager, his choices poor, his ability to carry adequate stock slim, so that he gets very little business. The chains get more, but they are also hard to interest except on a consignment basis, unless products are very heavily advertised.

Some manufacturers recently have tried to swing the trend away from the smaller units by reminding the public how much more economical larger sizes can be. War scarcities practically forced the public to buy larger sizes in many items. Container scarcities and higher costs with frozen sales prices have helped. Since the public purchasing power is high, this has had no material effect on sales, but changed purchasing power will bring changed consumer demands, and buyers are already preparing for lower scale purchases.

Public habits in toiletries are not fixed. The younger groups are looking for new things. They try everything new that is offered and, therefore, they want low-priced units. That is why, despite opinions to the contrary, a 10¢ unit may sell millions of packages a year, and still the demand for larger sizes will cause hardly a ripple. Outdoor Girl Face Powder in its heyday—sold over 20,000,000 packages in 10¢ sizes and never more than 1 per cent of sales in standard 50¢ units. Special note should be made of the Cutex Nail Polish survey in the Modern Magazines' analysis. In the last ten years their sales of 10¢ sizes have jumped from 65 to 88.8 per cent of their own total although they have maintained dominance in the field in every year except 1945 with sales percentages varying from 40 to 70 per cent of the total. In 1945 Revlon took the lead away from them with 34 per cent. Whether this new high priced brand will be able to maintain the lead in the face of declining feminine income and purchasing power remains to be seen. When we see the trend indicated above and we notice how rapidly the swing has been going, we can realize that some radical changes of merchandising methods are required by manufacturers who want to enter this field.

COMPETITIVE RETAIL PRICES: Price levels are different for different types of products. Most shaving creams and tooth pastes retail at from 25¢ to 50¢. Most face powders are priced to retail at $1.00, although some $1.00 brands have 10¢ sizes. The 10 leading brands as evidenced by Modern Magazines' Survey of Beauty of 1945 are as follows:

1. Max Factor
2. Coty
3. Woodbury
4. Lady Esther
5. Evening in Paris
6. Avon
7. Pond's
8. Richard Hudnut
9. Cashmere Bouquet
10. All others

Fawcett Survey gives the percentage of sales of face powders in the following order:

		Retail price
Max Factor	14.0%	$1.00
Coty	13.4%	$1.00
Woodbury	10.5%	10¢ & $1.00
Lady Esther	10.4%	10¢ & $1.00
Evening in Paris	6.4%	$1.00
Avon	6.0%	$1.00

Even those brands indicated by the Modern Magazines' survey as having 10¢ sizes find that most of the buyers are purchasing the higher-priced packages. These prices refer to the original prices, not to cut prices. Price cutting may bring the 50¢ level down to 39¢; and the $1.00 level down to 79¢. Most products of the same original price will be offered at the same reduced price as other advertised products of the same type. In other words, if a dealer is accustomed to sell one kind of $1.00 face powder at 79¢, then he will probably sell most of his $1.00 face powders at that figure.

This does not take into consideration the minimum-price policy now made possible by fair-trade laws. Although under this set-up a manufacturer makes his own minimum resale price, to which the retailer must adhere, he still cannot overlook the minimum prices of his competitors in the same price range. Certainly if manufacturer A has a minimum of 39¢ on a 50¢ tube of tooth paste, he will generally pile up sales resistance for his product if most other 50¢ minimums are 33¢. The general practice is to make the resale minimum at about the same price as the leaders in the field, although a difference of 1¢ to 3¢ does not seem to affect sales. During World War II, the question of price cutting was practically eliminated. All retailers' prices were frozen by the Office of Price Administration as of March, 1942. Most manufacturers after 1940 adopted fair-trade contracts and with the scarcity of merchandise incident to the war had very little difficulty in

maintaining prices. Most new products under maximum price regulations were fair-traded, so there has been little complaint from dealers. What will happen should the recent efforts being made to eliminate fair trade be successful, is anyone's guess.

PRICE CUSTOMS OF CONSUMERS: Consumers very often have prejudices regarding merchandise. Strange as it may seem, a product may sometimes be priced too low, since the public then seems to think that the product is not of good quality. Pricing products too low is most commonly found among beauty products and among drug sundries.

Sometimes it is necessary and advisable to make up packages to sell at different prices. Competition may dictate this policy. When this is done, the competitive price units and the number of them to be offered to the public must be carefully studied. In this way, several scales of purchasing power can be reached, as consumers who are limited in purchasing power can buy the smaller units and those who are or can be more liberal in their purchasing can buy the larger units.

However, the dealer is not pleased with many sizes of the same product, because of his inventory problems; therefore, he usually concentrates on the best-selling size. Thus each product finds its own acceptance level as the result of consumer preference.

DEALER AND CONSUMER PRICES: It is practically impossible to get any dealer to push a product offered at a price higher than similar products in his store. To him it is an insurmountable obstacle. If dealer-interest is to be gained it is necessary to fit the price to the greatest consumer market and thus show the dealer you do not expect him to try to raise the price consciousness of any of his customers to a level higher than that of similar products to which they have become accustomed. While there is still considerable price cutting in products not on fair trade, the druggist in the main is satisfied to attempt to market similar products within a customary price range. In this way, he avoids the effort necessary to build an unusual price range among his customers for which, as a rule, he has not the inclination.

COMPETITORS' PRICE CHANGES: Sometimes an important competitor in the field will decide on a drastic basic change that will have a marked effect on sales volume and that may have to be met. While the cutting of a basic price will usually have little effect on the sale of a patent medicine or a toiletry, where the price is not important, in a specialty frequently it will be calamitous. The most recent and impressive example is the case of electric safety razors. The first razor of its type was priced at $15.00 retail and maintained this price until the fall of 1938. During 1937 and 1938 a number of larger companies began to market electric shavers, all at about the same price—except one, which was placed at an $18.00 retail price. They were all price-protected. Suddenly in September 1938, Packard announced a reduction in retail price, to $12.50. This was followed immediately by a reduction to the same retail price of all the leading brands of the same general type. While, no doubt, the others could have maintained their retail price at $15.00 it was quite evident that business judgment dictated the advisability of meeting the reduction in order to remain in the competitive field. This is a practical example of the effect a competitor's price practices and changes may have on an already existing market and price range.

COMPETITION IN DEALER PRICE

COMPETITORS' MARKETING PRACTICES: From the marketing experiences of others with a certain product a manufacturer can learn much that can be a guide to him and that may enable him to avoid the expensive errors that usually come from the most generally accepted method of operation, the trial-and-error method. He can search out and discover for himself whether or not the market conditions are such that the druggists are ripe for a new product and whether or not the demand has been so divided that a new market can be gained by either lowering the price or enlarging the package, or both.

A number of important questions should be asked: 1) Is there enough business in the field to warrant additional competition? 2) Can the market be widened by careful and adequate sales promotion? 3) Is the probable market for the new product large enough to support adequately the advertising necessary to assure success? 4) Can consumer insistence for the product be developed so as to make it almost impossible to switch sales away from the product in favor of a substitute? 5) Is the competition from a competitor who is marketing a similar product as an individual unit or as one of a family of products?

The two types of competition suggested by this last question are importantly different. They may be studied to indicate whether or not a product gains wide distribution and large sales volume because the distributive cost is divided among many different products, and consequently each product can be sold at a lower price; and whether or not the marketing cost of the single unit is so high as to make the price practically prohibitive. A prospective manufacturer can be led on to dangerous ground if he does not sufficiently take this consideration into account, because if there is no successful independent product in the field to be entered, then the possibility of putting the drug product over independently is probably poor.

Generally it will be found, in the drug field particularly, that the sales volume of really successful products has been built up by manufacturers who have concentrated on one item. Whenever a line has been built, the line has usually followed the successful introduction of a single item. Other single products like Listerine are marketed independently. Usually, single specialties have greater demand in the field than the leading product of any family.

For example, there are two or three successful milk of magnesias, and many hundreds of imitators of them selling what can be called "pushlines." The same is true of mineral oil, of face powder, and many other products. When we look over the successful drug products, we see such names as Listerine, Pepsodent, Vick's, Phillips' Milk of Magnesia, Bayer's Aspirin, and a host of others that were originally individual specialties and patents. Later economic and other conditions brought several of these products under one control, but still they were handled as independent products and remained successful as independent products. Even though several come under one ownership, they still are marketed independently. This practice is followed because the original success in the

merchandising of a specialty product was continued by the new owners.

The above statement does not apply to those firms that specialize in selling U.S.P. pharmaceuticals. With those products, house reputation is important and those who market U.S.P. preparations such as Squibb, Eli Lilly & Son, and other leaders offer them as a family.

ANALYSIS OF THE COMPETITORS IN THE FIELD AS TO NUMBER AND VOLUME: The trend of sales of the products in a dealer's store and the number of brands of any one product on his shelves should be a guide to sales possibilities. In a number of cases, it has been the experience that the more brands there are of a certain type of product, the easier it may be for a manufacturer to be successful with a new brand of the product. Many successful brands indicate that the market is extensive, that the consumption is large, and that no one product has acquired dominance in the group. In such cases it seems to be easier to become successful with a new product, by directing some consumer favor from each of the large number of brands, than it would be if one or two products have developed considerable consumer good will and dominated the market. If a market is dominated by a few brands those brands have usually attained the stature of consumer insistence.

In 1928 when Outdoor Girl face powder was put on the market, it had 3000 competitors away from which to take business. By 1932, although it had only 5 per cent of the market, it had reached 6th place among these 3000—even though purchasing power was lower and price had become the important market factor. World-wide distribution followed soon after and within four years Outdoor Girl toiletries were sold in 60 foreign markets with plants in Havana, Cuba, Montreal, Canada, and London, England. The answer was simple. Market conditions made this possible. There were 3 or 4 leading brands, which together did not control 40 per cent of the market. That left 60 per cent of the market scattered among 3000 brands. When the Outdoor Girl product with a new consumer appeal and price incentive hit the market, it was able to get enough of this 60 per cent of the market to become one of the leaders. A later comer to the cosmetic field, Lady Esther, forged ahead to tremendous sales volume because of effective merchandising and advertising methods. A glance at the survey will show this steady rise. But Outdoor Girl was slipping, at the time that Lady Esther was steadily going ahead, and by 1944 the former had practically disappeared and went out entirely in 1945, although the English company, in the hands of the original owners, continues to be one of the leaders over there—despite wartime handicaps. Other new products that have been as successful as Lady Esther are Woodbury's face powder and Woodbury's facial creams. The reader might ask why Outdoor Girl did not retain its popularity, whereas Lady Esther and Woodbury's show a continuing popularity. The authors have very decided opinions about the causes, and they give their answers in this volume.

Some products can hold retail dominance over a long period of time. Others rise suddenly and drop off just as rapidly. Others have a slow, steady growth and seemingly without much fanfare maintain a fair and steady sale and show interesting profits over many years. One thing is sure, if coasting is tried, the product, drug or toiletry, will slip far in the race for public favor. Once a position has been lost, it takes much greater effort to get it back again. There's nothing worse to hear than the statement of a druggist or syndicate or chain drug buyer: "Blank?—oh!—that's dead." Then the product remains dead—with little chance of resurrection. This is not always true, however, Hennafoam, which has had a varied career under many ownerships, had slipped so badly it had almost disappeared. Nevertheless by careful handling, steady advertising, well-chosen sales policies and by taking advantage of opportunities, sales are forging ahead and are now limited only by production restrictions.

DOMINANCE THROUGH PRICE COMPETITION: In every case important competitive factors will have a marked effect upon a manufacturer's success. Price cutting until recently was one of these. Some years ago Z.B.T. Baby Powder gained dominance in the New York City market because at a time when the average retailer was disgusted with all the products in this group, the manufacturer came to the retailer and developed the latter's merchandising interest by offering a usually satisfactory product at a large margin of profit. The individual dealer's effort to secure volume on this product apparently had little effect on the dominant products in the field but the combined pushing of several thousand druggists placed the product, within a short period of time, in a dominant position in the territory so that it outsold every one of the previous leaders.

Sometime after its introduction its leadership was maintained at the cost of considerable advertising. The product went ahead rapidly, however, because it was meritorious, gave the consumer value, struck a popular note at an opportune time to gain the dealer's cooperation, and gave him real profit. It had all the necessary elements of success, and it was a success. The dealer was able to realize 40 to 50 per cent gross profit on each sale, as against selling goods at cost or even lower for competing products. However, after Z.B.T. had reached dominance in the territory, not only was it subject to terrific price cutting but it soon had 15 imitators. "On your toes" sales promotion activity was the only successful antidote.

EFFECT OF COMPETITORS' DEALS ON RETAILERS' COOPERATION: If the dealer receives a usually low price on a deal-offered product, he is very likely to load up on that, and consequently have little room in his store for many units of competing products. He will not give attention to any other product in the particular group until he has disposed of his large purchase. This means that a manufacturer can be shut out of many dealers' establishments by the price and dealer policies of his competitors, and his sales volume thereby adversely influenced.

OVERSTOCKED DEALERS: Very often a dealer is overstocked on items of a group, even though no special price advantage has been granted. When this occurs, no matter how advantageous or how desirable another product may prove to be, or how powerful the campaign behind it, the manufacturer experiences difficulty in trying to get much cooperation from the dealer. This is especially true with regard to products that are purchased seasonally, such as cough remedies, which are bought in June and July; powders and cosmetics, which are usually purchased in

early spring; and Christmas units, which are stocked in the late summer and early fall. The dealer is obviously disinclined to add to his already overburdened inventory. His only desire usually is to attempt to dispose of all the merchandise he has on hand as quickly as he can. Therefore he gives the overstocked products window display, counter display, and personal push far in excess of his ordinary efforts.

The overstocked condition may be due to a poor season, resulting in a large carry-over; poor merchandising, resulting in ineffective selling; or overbuying as the result of manufacturers' sales promotion. Cut prices, low-profit margins on branded goods, and intensive competition between manufacturers resulted in strenuous efforts to load dealers.

Even though the general tendency is in the direction of smaller stocks, forces are at work all the time to create an overloaded retailer. When one manufacturer markets a combination of both shaving cream and talcum, let us say, and the dealer figures that by splitting the articles and selling them separately his leading unit costs him very little, he is likely to load up on the combination unit. This will, in many cases, shut out competition for some months. It is attempts on the part of the manufacturers to force their market or introduce new products at the expense of old ones that very frequently result in a boomerang, and create trade evils that take many months to eliminate.

One of the leading tooth paste manufacturers, a few years ago, received a set-back in good will that took some time to overcome because he loaded many thousands of dealers with a combination, and although this combination was so marked that each item was not supposed to be sold separately, it was nevertheless frequently split, and street-corner peddlers hawked the goods at such low prices as to make it impossible for the legitimate dealer to earn a gross profit on the manufacturer's product large enough to cover the expenses of handling it. Since this was in the days before the passage of the Miller-Tydings Bill and the State Fair Trade Acts, it remains to be seen what the effect will be under price maintenance of splitting combinations and selling the premium for whatever they will bring. Already one retailer has done this in New Jersey and the Courts have upheld him.[1] While the O.P.A. regulations have recently prevented this type of companion selling, the drug business is notable for the recurring evils and these problems may again come to plague the manufacturers in the future.

Overloading caused frozen inventories, closed stores, and considerable credit losses. As a result the various associations of the retailers have been educating the retailer against overbuying and on operating with greatly reduced stocks. Also organizations of mutual associations and buying groups have been formed to enable the dealer to get low prices on small purchases. These activities curtail loading up, and if continued will place the retail trade in a far healthier condition than ever before and leave the field wide open to new manufacturers.

In many cases where the dealer does buy heavily, he is more than likely buying credit rather than merchandise. Since he gets long credit from wholesalers, any manufacturer who sells direct must face the condition that he has to sell on long term. When he does that he is selling credit just as much as he is selling merchandise, a factor which should be provided for in his costs.

UNDERBUYING: While the wholesaler is trying to get the retailer to cut down his uneconomic excess purchases, he is also trying to cooperate with the dealer in getting purchases on a reasonable basis. Underbuying is just as dangerous as overbuying.

EFFECT OF WHOLESALING DISCOUNT ON SALES: When a manufacturer finds it advisable to sell through a wholesaler he should consider carefully the question of wholesaler's discount. Formerly, wholesalers received a discount of 15 per cent and 2 per cent for cash in 10 days; and they seemed to be satisfied with that. They sold their products in unbroken packages, gave no discounts, and made money. However, certain conditions arose that made it necessary for the wholesaler to obtain increased discounts. Among these conditions is the competition he faces from mutual and cooperative buying agencies and chain stores, which has gradually forced him to a position where he gives away a large portion of the discount in order to meet the competition. He tried to meet the situation of disappearing profits by securing larger discounts from the manufacturer, refusing to handle new products unless the discount was greater than 15 per cent. His position is thoroughly covered in the report of the 57th annual meeting of the N.W.D.A.

One of the latest methods used to get wholesaler activity is to offer a P.M., or premium, usually 5 per cent, or a fixed amount per unit or deal, for the wholesaler's salesmen as extra compensation. If restrictions are placed on these payments so that they are paid directly to the individual salesmen, in many cases they will help sales, particularly with the smaller wholesalers.

When the wholesaler renders efficient service, and this is true of a goodly number of wholesalers, objection is rarely made to the compensation asked. But many a manufacturer raises the question as to whether he receives from the wholesaler the services and influence he expects for the price he pays. It has been the experience of some manufacturers that it is physically and humanly impossible for the wholesaler, who handles thousands of items, to give more than perfunctory attention to particular products of a manufacturer that are in his stock. As a matter of fact, the most the manufacturer can expect from his wholesaler is the carrying of complete stocks, at all times, to care for orders from dealers for the product. The wholesaler frequently has several hundred deals under way at one time. How can he handle all of them and stir up other business in addition? The wholesaler's sales efforts cannot help being limited on any single item, and when he does do a real job, it is usually on those products where the sales work amounts to little more than order taking or as it is sometimes called a "push-over."

THE WHOLESALER AS A MANUFACTURER: In many cases, the wholesaler is also a manufacturer and he pays bonuses to his salesmen to push the most profitable items, which are usually his own products.

The wholesaler is not going to push the manufacturer's product, on which he makes a factory commission, in face of a product of his own, on which he makes not only the seller's commission but the manufacturer's profit as well. To expect any salesmen to do this for the manufacturer is

to expect much more than can normally be expected from anyone. It is practically a universal condition in the wholesale field today that the wholesaler is competing, as a producer, with the manufacturer in nearly all of the nonsecret groups, and a goodly number of proprietaries. This narrows the efficiency of the wholesaler as a distributor, as far as the manufacturer is concerned, and lessens his cooperative strength.

The wholesaler constantly complains that there are too many articles on his shelves. He feels that he does not want to increase his overhead and increase the number of items he has in stock without excellent possibility of profit. Therefore, there is a tendency on his part to avoid the addition of any new products. To stock a new product he must be given large discounts or, by indifference because he is a competitor, he shuts out competition for himself by not adding the product to his line.

PROMOTIONAL EFFORTS: Since wholesalers have become manufacturers and manufacturers retailers and general complications have developed in the drug field, it is almost impossible to separate any one group from the other. This is becoming more important as time goes on. If the competition of wholesalers selling their own private brands increases, then all of the problems relating to general competition among manufacturers will have to be faced in connection with the wholesaler as well.

Yet, the wholesaler is, however we look at it, still an important organ in distributing drug products. He should be recognized as such by manufacturers and worked into the marketing campaign as completely as possible. The wholesaler may become more efficient and find it possible to survive and earn greater profits purely as a wholesaler if he follows the formula suggested as the result of the National Drug Store Survey in St. Louis:

From the wholesaler's standpoint a good customer is one who:

1. Is located conveniently for service and contact.
2. Buys considerable merchandise.
3. Pays bills promptly.
4. Returns no more merchandise than is absolutely necessary.
5. Insists on no unreasonable services.
6. Buys each commodity-item in sensible quantities.
7. Orders merchandise no more frequently than necessary.

From the retailer's standpoint a good supplier is one who:

1. Carries a complete line.
2. Offers reasonable services.
3. Charges reasonable prices.
4. Carries fresh merchandise.
5. Advises retailer on merchandising matters.
6. Protects retailer in every way possible.
7. Passes on to all savings resulting from cooperation.

Lee Bristol, of the Bristol Myers Co., at a Drug Products Group Meeting of the Association of National Advertisers defined the wholesaler's function in this fashion:

> Couldn't we define the wholesaler's excuse for existence on two grounds: one that he supplies a means of distribution to small accounts: and the other, that he assumes credit risks? Those are the two elements, but beyond that it is rather dubious to hope for much further cooperation from a man whose catalog shows 8000 on his preferred list, or that you are going to be preferred among the group. You give him a discount on that account. You give it to him because he does certain things for you to save you money and you are glad to give it to him.

All the rest of the manufacturer's selling job must be done by himself. In fact, many manufacturers have come to the conclusion that they can expect very little from the wholesaler in the way of sales effort and, consequently, develop their own sales organization.

COMPETITION OF DISSIMILAR PRODUCTS: Many drug products though original, face the competition of other products dissimilar in appearance but designed to accomplish a like purpose. For instance, cough remedies. There are many types of cough remedies, some of them competitive with each other and others competitive with entire groups. There are the common cough medicines put out under brand names; the household remedies supplied by druggists under their own names; and the prescriptions of the doctors—all intended to serve the same purpose. Then there are candy cough cures. More recently, cough aids have been offered in the form of confections, such as chewing gums and hard candies. In addition, certain of the antiseptic mouth washes and nose drops have entered the field of cold remedies, more as preventives than cures, but they have become competitive with each of the other groups.

A product, then, may be original in its selection, such as Feenamint, which is put on the market as a laxative gum, yet it may give to and have serious competition from a group of products different in make-up, but used for the same purpose, as for example Ex-Lax, milk of magnesia tablets, psyllium seed, mineral oils, and the like.

The same situation is to be seen among dentifrices. There, tooth pastes and tooth powders compete with each other and both of them compete, to a greater or lesser degree, with mouth washes. A few years ago, a new type, a liquid dentifrice, entered the field.

Shaving creams are found competing with shaving sticks, soap, and powder, and all of them compete with the brushless shaving creams and electric safety razors, which, in turn, offer competition to manufacturers of shaving brushes, and tend to cut down their volume. It is a serious problem for a manufacturer of razor blades to find that in three years (1935-1938) one electric razor manufacturer sold over 2,000,000 electric razors. That is why almost all the large blade manufacturers were compelled to manufacture electric razors. Then another manufacturer, Pinaud, seized the opportunity to offer the public Swav, a product to be used after shaving with an electric razor. Thus a new field was opened to still other manufacturers. This factor of competition between products of similar and dissimilar nature requires careful analysis before the desirability of the product to be marketed is decided upon. It is unusually important, in so large a market as the drug field, with so many enterprising merchants engaged therein.

SECTIONAL PREJUDICES: Sections of the country, too, have prejudices that have to be combated. In nearly all trading areas some local products dominate the market, and although they are important only in their home district their sales volume in the aggregate represents a substantial proportion of the total. There are some products whose

sales are gradually falling off because they have been outmoded and a new type of product for the same purpose has taken their place. The falling off may be only in certain sections. This makes it difficult and expensive to secure the desired sales volume for the country as a whole. The sectional prejudices take the form of a lower price range, a desire for different sizes or different packages and styles, or just public habit, but whatever the reason, the general merchandising plan must be geared to meet it. For instance, in the south, vanishing creams are still largely used by women as a base for make-up. In the urban areas of the north and east, this product has been largely abandoned in favor of special tinted make-up bases. On investigation many similar prejudices will be found.

COMPETITION OF PRESTIGE PRODUCTS

COMPETITOR AND MARKET DOMINANCE: Analysis needs to be made to discover the extent to which a particular field is dominated by competing products. For many products the leaders may by no means dominate the market. The Modern Magazines' survey shows that many commodities that apparently dominate the market have acquired only a comparatively small share of the entire market.

Modern Magazines' Survey of Beauty of 1945 gives the rise and fall of leading brands in each product group—the variations in prices and the increases and decreases in appeal. The advent of new brands is also shown and their displacement of old brands. There are over 40 such charts included in this survey and they are all worth careful study.

Some of these tables and the relative positions of respective brands could, with profit, be studied for the gains and losses shown by various brands. Then further study could be made as to the reasons certain brands gained or lost markets. Was quality changed? Was the advertising changed? Did the management fall down on some distribution problem? Did price policy fail to fit in with changing income? Did a competing product change any one of its distribution policies? Did a new brand come into prominence for any particular reason—copy appeal or some special circumstances?

Household Magazine also made a survey among its readers, who are largely in rural areas. If a comparison is made between the products that are in the lead there and in the cities, it will be found that the same manufacturers usually are dominant in both groups. These studies suggest that all areas of our country respond in much the same way to a good product and efficient sales promotion and that all possible outlets need to be reached in some way or other.

Another interesting survey to study is one by the *American Weekly*. The results they tabulated from over 175,000 questionnaires received in a contest they conducted follow very closely the results of the other surveys mentioned above. The following table gives the percentages of users of various brands of cold creams, soaps, perfumes. The figures represent the percentages of those answering the questionnaire.

Although these surveys were taken at different times and among different types of readers they showed not only some differences but also some very interesting parallels. Comparison of the *American Weekly* and the Modern Magazines' surveys of face powder is particularly interesting. Remember that the Modern Magazines' survey was conducted among its own readers, who bought the magazines in the many 5-cent and 10-cent stores and the newsstands, while the *American Weekly* survey came from a wide variety of homes. The leader in both cases was the same—Lady Esther. The first five were the same in almost the same order and the percentage difference of all on both surveys was negligible. Furthermore, the total of users of all five in both surveys indicated almost the same degree of dominance. If you compare these two surveys with the one by *Household Magazine*, you will find 4 of the 5 leaders to be the same, with the 5th varying just slightly. The percentage of scattered users is almost the same.

Cold Creams	*Percentage*	*Toilet Soap*	*Percentage*
Ponds	39.37	Lux	24.87
Lady Esther	15.27	Ivory	18.96
Woodbury	11.51	Palmolive	17.09
Daggett & Ramsdell	.99	Lifebuoy	14.91
N. H. Ayer	.72	Camay	12.62
Du Barry	.80	Woodbury	4.48
Coty	.72	Cashmere Bouquet	1.32
Junis	.70	Sweetheart	.71
Dorothy Gray	.50	Fairy	.32
Arden	.56	All Others	4.72
H. Rubinstein	.45		100.00
All Others	28.41		
	100.00		

Perfumes	*Percentage*
Coty	26.35
Evening in Paris	14.50
Yardley	3.75
3 Flowers	3.53
Houbigant	2.51
Guerlain	1.19
Caron	.49
Corday	.36
Springtime in Paris	.29
Chanel	.35
Lanvin	.17
All Others	46.51
	100.00

Now if we examine the shaving creams surveys, we find some close parallels also. The four leaders shown in both surveys are the same brand and the percentage differences between the two surveys are negligible. Frequently, slight differences in the relative positions of different brands are accounted for by attendant advertising. Generally, those brands that are advertised regularly in a newspaper or magazine will make a better showing in any survey than those that are not. This, often, has a tendency to cause some changes in relative standing on different surveys.

At any rate these surveys indicate with considerable accuracy the leading brands of various products. It will be noticed, however, that some types of products have a comparatively small percentage of users divided among "all others," whereas others like toilet soap and tooth powders are practically dominated by the leaders. This brings up the question as to what has made the leading brands the leaders. Study in considerable detail could well be undertaken of policies, personnel, and finances that have, apparently, led them to success.

One pertinent fact is noticeable from an analysis of these surveys. Generally there is enough of the market left to those in the miscellaneous grouping of each product to enable a new competitor to break in. In other words, in very few groups do the five leaders do more than 50 per cent of the business. This indicates, quite definitely, that new enterprises can make progress in the field if properly marketed, despite the business done by the existing leaders in the field.

It would seem that except in a few cases the market cannot be dominated by a single producer in the sense of a 50 per cent or more control of the market. The general market for most drug products and toilet goods is so vast that by obtaining only a small portion of the market a profitable business can be developed. After a product has been selected, it should be marketed with a view to the competitive dominance of the field itself. If 60 per cent of the market is divided among 100 or more competitors, so that no one of them is sufficiently strong to control the field, or if the miscellaneous groups and those outside of the first five do at least 50 per cent of the business, then those factors that have made the competitors weak should be guarded against so that the manufacturer may become strong in the particular group that he has selected. Since tooth pastes and soaps seem to be in strong hands, with comparatively few firms controlling most of the business, whereas there are no dominant brands among rouges, lipstick, nail polishes, and perfume, it is evident that to try to market soap or tooth paste presents greater difficulties than to try to market rouge, lipstick, nail polish or perfume.

It is well to note also that in the surveys the tables indicated the popular price ranges of the various products and the change in the last ten years. Although 43.6 per cent of the purchases by Modern Magazines' readers were in the 10-cent field, 56.4 per cent of the business, and for some products much more, was done in outlets with higher prices. These surveys are important in giving a true picture of the field and in indicating that broad generalizations as to sales possibilities of types of outlets are likely to result in errors of judgment. Very frequently, a price unit may prove popular not because of economy, but just because of convenience or accessibility of the means of purchase.

AGE OF BRAND SUSCEPTIBILITY: After we have felt satisfied that we have found all the answers to our market problem in the previous surveys and we come to the conclusion that we have all the information we need, we discover a new type of survey, called by the originator, Fawcett Publications—"The Age of Brand Susceptibility." Those of us who may have come to the erroneous conclusion that the younger people are shifting their allegiance from product to product and that older folks are more set in their ways, are in for a startling shock from the results indicated below, taking just a few of the more commonly used toiletries as a basis.

Just by way of comparison it is well worthwhile to take the detail figures of another product in general use in this field.

In the Modern Magazines' survey also there are some interesting charts on brand susceptibility, some of which show the length of time particular brands have been used and others the age of brand preference.

It will be noted from these studies of soap and face powder that the leaders are the same that appear in the other surveys mentioned. What other conclusions we can draw can be obtained from a brief extract from the survey on comparing results in Group I and II products below.

Twelve convenience items most apt to be purchased by women of all ages were used in making this study. They are

I	II
cold cream or all purpose cream	coffee
deodorant	canned soup
lipsticks	gelatine
sanitary napkins	dentifrice
face powder	toilet soap
rouge	flake soap

The questions were asked:

1. "Which of the above products or articles do you yourself buy?"
2. "How many times out of ten do you buy the same brand?"
3. Where same brand is bought eight or more times out of ten, respondent was asked separately for each product: "How long have you used the brand you most frequently buy?"

Toilet Soaps

Brand preference by age groups among women who bought the same brand at least 8 times out of the last 10 purchases.

Brand	(Percentage)								
	Total	16-21	22-27	28-33	34-39	40-45	46-51	52-59	over 60
Lux	23.3	29.2	27.1	22.9	22.9	21.8	20.4	17.8	16.9
Palmolive	17.9	17.9	16.4	11.6	15.7	18.4	17.7	27.4	25.4
Ivory	13.9	13.5	10.3	12.0	13.8	14.0	15.8	19.7	18.5
Lifebuoy	10.5	7.5	9.5	9.8	12.8	9.9	13.8	9.6	13.2
Camay	10.5	10.3	11.9	12.4	11.9	9.2	9.8	5.3	9.0
Woodbury	9.7	8.6	9.7	12.5	8.7	11.8	7.3	8.7	7.9
All Others	14.2	12.9							

Face Powder

Brand preference by age groups among the women who bought the same brand at least 8 times out of the last 10 purchases

Brand	(Percentage)								
	Total	16-21	22-27	28-33	34-39	40-45	46-51	52-59	over 60
Lady Esther	15.9	17.9	17.2	17.3	14.7	12.9	14.7	13.0	15.5
Coty	14.0	13.9	11.6	11.5	12.9	16.4	16.6	17.8	21.8
Woodbury	7.5	11.3	8.9	5.0	6.0	5.4	7.9	7.5	5.5
Pond's	5.5	7.0	8.0	6.6	5.6	3.6	2.1	2.0	3.6
Max Factor	4.3	5.7	5.3	4.1	3.3	3.0	4.2	6.2	.9
All Others	52.8	44.2	44.9	55.5	57.5	58.7	54.5	53.5	52.7

The purpose of asking how many times out of ten the same brand was bought was to establish consistency of brand purchases, or in the phrase used throughout this report, to what extent a purchaser is "committed" to a given brand.

Various attempts have been made to trace backward to an age-period the beginning of a given brand use. On convenience items this is impossible to do satisfactorily. Memory is too inaccurate and cannot possibly extend over a long enough period of time to record the beginning of use of successive brands to which one may have been committed at different periods.

The alternative to this method is the one used here—to find out what women of different ages do at the present time regarding their consistency of brand purchase or, in other words, their degree of commitment to a given brand; then study these data in the light of trends and differences at different ages.

Having assembled these data they were separately analyzed for each different item. After considerable statistical experiment and analysis by Dr. Raymond Franzen, who has collaborated on all steps of this study, it was determined that the maximum degree of commitment, that is the purchase of the same brand ten out of ten times, exemplified any other combinations that could be used and was the simplest, clearest picture to present.

Therefore, the age curves showing commitment are based on this maximum. All percentages for these charts are percentages of users. For example, 56 per cent of the women aged 20 to 22 who use coffee buy the same brand ten out of ten times. The percentage of users data, given at the bottom of each age commitment chart, show the proportion of women of given ages who purchase such an item at all.

The combinations of products into the four groups shown hereafter were in no way predetermined. They have been grouped together because the cycles of recurrent high or low brand commitment made the same general pattern. Certain more or less obvious reasons for these patterns, for periods of experimenting with new brands or of continued adherence to old ones, presented after the natural groupings were made. These are discussed in the material preceding each group.

For the reader to get the full value of this survey, he should examine the entire study and compare the observations and conclusions with other special surveys made by other publishers.

PRICE TRENDS OF LEADING BRANDS: In discussing the definite trend to syndicate store purchases in toiletries, particularly, further studies of the fourteen yearly surveys of Modern Magazines will be interesting. Despite the theory, often advanced that the ten-cent sizes are trial sizes only, and help sell larger units, if the tables on sizes of purchases are to be believed this is not the case. Note particularly how in the last ten years for those products that have both small and large sizes, the proportionate sale of ten-cent sizes, has increased rather than the sale of the larger though still generally more economical sizes. Those below are only a few of the tables that show price trends of leading brands.

Especial attention is directed, on the one hand to Fitch's Hair Tonic, where the percentage is from 38 per cent to a drop to 6.9 per cent and to Cutex Nail Polish which shows a steady increase of its total from 66.0 to 88.8 per cent of the total in ten-cent size; but all other increases among all brands of all products should also be noted. On the other hand it will be noted that there seems to be a decline in the percentage of almost all creams. This is probably due mainly to the nature of the product, as the

Price Trends of Leading Brands of Face Powder

	PER CENT OF ALL PURCHASES MADE IN 10c (OR LESS) SIZES										PLACE OF PURCHASE — 1945				
	SURVEY YEAR														
LEADING BRANDS	1935	1936	1937	1938	1939	1940	1941	1942	1943	1945	Dept. Store	Drug Store	5 & 10c Store	Miscellaneous	Grand Total
Max Factor	0.0%	0.0%	0.0%	2.3%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	36.1%	59.3%	4.6%	0.0%	100.0%
Coty	45.0	24.0	18.0	20.2	19.2	15.1	16.3	15.8	3.7	0.0	34.3	61.4	4.3	0.0	100.0
Woodbury	49.0	23.0	43.0	37.9	38.8	40.8	42.1	36.3	32.1	17.2	10.0	31.1	56.7	2.2	100.0
Lady Esther	41.0	31.0	35.0	33.1	39.8	38.5	32.7	32.8	31.6	17.9	14.9	36.8	46.0	2.3	100.0
Evening in Paris	0.0	0.0	0.0	0.0	14.6	9.0	10.0	0.0	10.6	5.3	21.6	71.2	6.3	0.9	100.0
Avon	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	100.0	100.0
Pond's	52.0	42.0	49.0	43.7	43.2	53.2	41.4	48.4	43.1	19.5	7.9	40.4	50.6	1.1	100.0
Richard Hudnut	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.6	50.9	3.5	0.0	100.0
Cashmere Bouquet	-	-	-	-	-	-	-	-	58.1	33.3	9.4	25.0	65.6	0.0	100.0
All Others	-	-	-	-	-	-	-	-	-	7.4	39.2	38.8	21.7	0.3	100.0
TOTAL ALL BRANDS	26.0%	24.5%	25.0%	25.9%	25.1%	24.1%	21.6%	22.7%	18.1%	8.1%	27.8%	45.5%	23.4%	3.3%	100.0%

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Price Trends of Leading Brands of Hair Tonic

	PER CENT OF ALL PURCHASES MADE IN 10c (OR LESS) SIZES										PLACE OF PURCHASE — 1945				
	SURVEY YEAR														
LEADING BRANDS	1935	1936	1937	1938	1939	1940	1941	1942	1943	1945	Dept. Store	Drug Store	5 & 10c Store	Miscellaneous	Grand Total
Vaseline	-	-	-	37.0%	41.2%	29.2%	40.0%	22.8%	15.3%	13.6%	7.3%	58.2%	34.5%	0.0%	100.0%
Fitch	38.0	40.0	28.0	37.5	38.2	29.7	32.8	15.8	20.9	6.9	8.7	56.5	34.8	0.0	100.0
Jeris	-	-	-	-	-	-	-	0.0	0.0	0.0	8.3	91.7	0.0	0.0	100.0
Wildroot	32.0	12.0	30.0	20.0	30.8	12.5	13.3	22.2	25.0	6.2	13.3	86.7	0.0	0.0	100.0
Kreml	7.0	27.0	11.0	15.0	19.0	13.6	25.0	11.8	0.0	0.0	20.0	60.0	13.3	6.7	100.0
All Others	-	-	-	-	-	-	-	-	-	4.2	12.2	70.7	9.8	7.3	100.0
TOTAL ALL BRANDS	20.0%	26.0%	24.0%	23.6%	23.6%	21.0%	23.2%	17.3%	15.4%	7.3%	10.5%	65.8%	21.1%	2.6%	100.0%

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quantity of cream usually given in the ten-cent sizes is one ounce or less. This quantity is used up so rapidly that most users find it advisable to buy in larger sizes. In the war years 1941 to 1945, there was a continuous scarcity of low-priced containers, and better economic conditions created a trend toward higher-priced units. On the whole, however, these surveys indicate that the ten-cent sizes are large samples is fallacious reasoning. A detailed analysis of this Modern Magazines' survey will give a more complete picture with respect to many cosmetic products.

SUCCESS IN SPITE OF COMPETITION

The surest way to success and the line of least resistance is to develop a new idea, new package, or even a new conception of an old idea, to influence the public in your favor. In this way you become a leader and not an imitator and with proper merchandising policies, based on an acceptable product, with care for research on marketing and consumer preferences, success—despite the intense competition—is possible. A glance at the famous names of 20 years ago and today will disclose many that have slipped, some that have disappeared, and upstarts that have forged to the front. Despite the apparent pessimistic forecasts indicated in the previous pages "all is not lost" for the new entrepreneur in these fields. It is true, however, that many have been found wanting. Strange to state, the size of the purse was not the governing factor, because there have been some costly "flops" in the last 10 years by large firms who had ample funds available. LaLasine Mouth Wash and Junius Facial Cream did not lack for funds and they got nowhere. On the other hand, many firms with limited capital and an idea, plus sound merchandising judgment made considerable headway at the same time. The history of Hennafoam (now called Glean) is a story of success, in spite of the handicap of declining sales volume and poor handling over a period of years.

These experiences should convince any manufacturer that what is required more than anything else is an acceptable product, properly and carefully marketed, with a close tie up of soundly planned merchandising together with efficient, prudent and economical advertising. In succeeding chapters we propose to describe the general marketing and advertising procedure required to gain these results with a minimum of errors and risks.

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[1] See Bathasweet, Weissbard Bros., CCH 25, 536.

(Chapter 4 will appear in the subsequent issue.)

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